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# USSR Report

HUMAN RESOURCES

No. 49

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## LABOR

### ANTOSENKOV ON CONTROL, DISTRIBUTION OF MANPOWER

Moscow TRUD in Russian 11 Dec 81 p 2

[Article by Ye. Antosenkov, Labor Resources Administration chief in the USSR State Committee for Labor and Social Problems: "The Country's Labor Reserves"]

[Text] Quite a lot is now being frequently said and written about the demographic situation in the country becoming complicated and the reduction in the coming years in the inflow of the working population into production. Almost any serious economic talk now starts with the statement: it is, unfortunately no longer possible to count on any kind of significant increase in manpower. And the irremediable nature of this unpleasant prediction is sometimes fanned, as if we were talking about some kind of uncontrollable, natural calamity.

But no kind of calamity is to be expected, even though the prediction really is not very favorable and will soon come to pass. And today, you can scarcely call demographic processes haphazard. They are not only predictable but also largely controllable. Moreover, without an effective system for managing manpower resources, the main force of production, it is now simply impossible to get by. And if these demographic predictions require decisive actions from us, it is primarily in improving this system.

Like any other system, it should be built on a knowledge of the law-governed patterns involved in demographic development and in-depth, prompt analysis of practice. It therefore makes sense to take a look at what we have at our disposal, does it not? as we stand on the threshold of a certain demographic decrease.

First of all, we have a very solid manpower potential: more than 125 million people are working today in the national economy. In terms of the level of employment, our country holds one of the leading places in the world.

There is more. For the first time in the postwar years the ratio between men and women aged up to 30 has equalized, and the proportion of people aged 25 to 40 has increased, that is, those in their most productive period. The general educational level of those starting their working life is being raised rapidly, and increasing numbers of qualified workers are graduating from the vocational and technical schools.



In a word, the quantitative and qualitative makeup of manpower reserves make it fully possible to resolve the tasks set for the five-year plan by the 26th CPSU Congress. The whole question boils down to how to get the maximum return from utilization of the manpower available in the population. This question should turn primarily on experience and practice in manpower management.

What have we achieved here? Thanks to the steps taken to consolidate the labor force, for the first time for many years in the developing eastern regions of the country population inflow has exceeded outflow. And in the Central Asian republics a different trend has been noted: here more people are going to other regions than are arriving. This means that migration flow has begun to correspond more closely with national economic requirements.

During the 10th Five-Year Plan plans for the organized redistribution of manpower were fulfilled quite successfully: more than 1.6 million people were directed by the labor recruitment organization to the construction of the Baykal-Amur Main Railroad Link, projects for the Olympic Games, and into the production facilities of the nonchernozem areas and the enterprises of Siberia, the Far East and so forth.

The system of public job placement has begun to enjoy greater popularity. About 13 million people, or more than 1.5 times more than in the preceding 5 years, found employment for themselves with the participation of the labor organs during the last five-year plan. Naturally, special attention was given here to bringing manpower up to strength in newly commissioned and the most important existing enterprises, and this also corresponds with the requirements of economic development.

In brief, the system for managing the labor force does work and, as they say, is already yielding definite results. But what is done is done already; what comes next? In the coming years the possibilities for extensive economic development will be sharply curtailed: nine out of ten starting their working life will only be making up the losses in manpower.

First and foremost we must talk about the problem of balance between jobs available and manpower available, as discussed at the last CPSU congress. In order to solve this problem it is essential to review the practice in the allocation of capital investments. Until recently, ministries and administrations did not consider the factor of manpower as one of the main or decisive factors. Traditionally they preferred new construction to reconstruction and remained stubbornly reluctant to leave the comfortable, economically developed regions where there are no manpower reserves. For example, in the nonchernozem zone of the RSFSR contraction of the population of working age will take place in the next few years at a rate four times as fast as the average for the republic. And it is precisely here that the ministries are proposing to site three new enterprises.

Another example: the population growth rates are the highest and the most stable in Tajikistan; over the past 20 years the population has doubled. The republic's economy has also been developed quite intensively, but the manpower reserves also make it possible to locate there the labor-intensive enterprises of the light and food industries and branches of major plants. However, for the new construction sites, individual ministries again prefer the European part of the country over the Central Asian.

They pursue the same shortsighted policy when choosing between small, medium and large populated points. Despite all the constraints and prohibitions, the concentration of industry in large cities continues; this exacerbates the problem of their economic, social and demographic development.

How then do we think that assets should be distributed for future economic development? In the European part of the USSR they should be directed primarily for enterprise reconstruction and improving labor productivity and output volumes using the same numbers of workers and employees, or even fewer. In the northern and eastern regions of the country it is essential to pursue a labor-retention policy and to create mechanized and automated production facilities and favorable conditions for people to live in. And finally, in Central Asia and Azerbaijan it is necessary to think about the more complete and rational utilization of the labor force.

As you can see, the recommendations are simple and obvious, but because of the forces of inertia it is quite a complex matter to implement them. Evidently, in this matter the USSR State Committee for Labor and Social Problems and the republic committees and local labor organs should play an increasing role. As it stated in the CPSU Central Committee and USSR Council of Ministers decree on improving the economic mechanism, together with the planning organs they should agree the figures on increases in the numbers of workers and employees at associations, enterprises and organizations regardless of their administrative subordination.

This in itself is, so to speak, a form of control. In addition, the republic committees on labor should make the final decision on the siting of new enterprises. Last year, the committees of the RSFSR, the Belorussian SSR and the Ukrainian SSR examined about 500 proposals for ministries and administrations on new construction and the expansion and reconstruction of enterprises, and almost one-third were turned down. The USSR State Committee for Labor and Social Problems is now working on unified organizational and methodological bases for this work; when combined with the experience of the committees in the RSFSR, Belorussia, Latvia and others the will help in raising expert examinations to a higher and official level.

Its logical continuation should be state control over provision of manpower for new enterprises, on which the time taken to assimilate capacities directly depends. The labor organs have experience in this kind of control; last year, in particular, the USSR State Committee for Labor and Social Problems examined the work of the Belorussian committee in this direction. The results were not bad: all the most important enterprises controlled by the committee were brought up to strength in terms of manpower and production capacities were reached in good time. Our task is to achieve the same kind of significant results at the most important project nearing completion in Siberia and the Far East and also at the new group "B" construction sites.

The question of redistribution of manpower by sectors is closely connected with this problem. For example, in most sectors in the nonmaterial production sphere, namely everyday services, trade and public catering, scientific establishments and so forth, during the past 10-15 years the number of workers has increased rapidly, rather more intensively than in industry. The time has come to limit the numbers of those engaged in these sectors, use the Shchekino method here, which insures completion of a larger amount of work with fewer personnel, and practice combined professions and duties more extensively.

It will be easier to solve all these problems if the job-placement system for the population is functioning efficiently. In the near future the job-placement bureaus should become territorial centers for solving the socioeconomic problems of employment. Here, as has already been said, during the last five-year plan the scales of job placement for the population using the labor organs increased. However, this occurred thanks mainly to the expansion of the bureau network and not through their more efficient operation. Now quantity should gradually be replaced by quality, and for this the job-placement bureaus must concentrate complete information on the requirements of enterprises and organizations for staff, worker redundancies, the unemployed work-capable population. And of course, it is essential to reequip the bureaus technically as is now being done in Latvia, the RSFSR and Uzbekistan. It is a pity that the development of standard automated job-placement systems for various cities is proceeding so slowly; this complicates matters considerably.

However, the creation of working places balanced with available manpower, and job placement are only half the battle. The other half is working conditions that provide maximum return. We exercise state control over the utilization of the labor force and we can report that over the past few years staff turnover in industry and construction has been reduced. Moreover, fewer people are quitting at their own request and this is a very important circumstance, indicating that the working and domestic conditions suit people.

There are still many reserves, however, that we are using poorly. Shift losses of working time, serious absenteeism, stoppages and absence with the permission of the administration are being reduced extremely slowly. Naturally, in these circumstances manpower requirements exceed the calculated numbers. And individual ministries stubbornly refuse to reckon with the limits on the numbers of workers and employees established for enterprises and organizations. Last year the USSR Ministry of Power and Electrification, Ministry of the Chemical Industry and Ministry of Fertilizers [Minudobreniy] each exceeded the limit by 1,500. In construction the gap is even wider.

This all testifies to the possibility of compensating for the inadequate inflow into the labor force by using internal reserves and making more rational use of manpower. These possibilities will become quite indisputable if we just recall all the patter we heard about the problems of reducing manual labor, establishing substantiated norms, introducing the brigade method and many others.

Possibilities, however, are not results. They must be realized. And for this it is useless to say that the demographic situation in the country is becoming complicated. It is essential to grasp more boldly and decisively the levers that control this process.

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## LABOR

### DISTRIBUTION OF PRODUCTION UNITS RELATED TO EFFICIENCY

Moscow POLITICHESKOYE SAMOOBRAZOVANIYE in Russian No 10, Oct 81 pp 28-36

[Article by I. Shilin, deputy chairman of the Council for the Study of Productive Forces of USSR Gosplan: "The Distribution of Production Units and Economic Efficiency"]

[Text] The unified national economic complex in our country is a dynamic economic system of huge dimensions, and its constant and highly effective development is largely related to the optimal distribution of production units. "The Basic Guidelines for the Economic and Social Development of the USSR During 1981-1985 and During the Period up to 1990," ratified by the 26th CPSU Congress, set the task of "providing for the better distribution of productive forces for the purpose of heightening the effectiveness of social production through the further specialization and balanced development of the economies of union republics and economic regions within the unified national economic complex."

Some of the problems connected with the distribution of productive forces and the importance of their resolution for the heightened effectiveness of social production are examined in this article.

The better distribution of production units, accomplished according to a single plan in the socialist society, is expected to promote the better use of our country's tremendous production, scientific and technical potential and rich natural resources. In the mature socialist society there is a strong reciprocal connection between effectiveness and the distribution of production units. Economic intensification provides more opportunities for the better distribution of productive forces. Scientific and technical progress, for example, can lower the cost of transporting products, and this, in turn, simplifies the choice of construction sites for new enterprises.

When the Communist Party plans economic strategy and, in particular, when it analyzes the theory and practice of the distribution of production units, it constantly turns to V. I. Lenin's rich scientific ideas for guidance. In particular, he viewed the optimal distribution of production units as one of the means of speeding up the development of productive forces and augmenting labor productivity. His study of the distribution of production units can be divided into three stages. The first stage consists of his early works, in which he analyzed capitalism's "historic mission" in Russia and examined the topic of distribution in this

connection. The second consists of his works on the theory of imperialism. Here he analyzed the effect of the monopolistic stage of capitalist development on changes in the distribution of productive forces. The third consists of his works of the post-October period. Here he examined the theory and practice of the distribution of production units under the conditions of socialist construction.

The natural laws governing the distribution of production units differ fundamentally, V. I. Lenin stressed, in the capitalist and socialist societies. The chaotic distribution of enterprises, determined by the interests of the individual capitalist, private corporations or monopolistic associations, is characteristic of the capitalist economy. After the victory of the socialist revolution, problems in the distribution of productive forces were solved according to plan, on a scientific basis and from a fundamentally different, national economic standpoint, in the interests of the laboring public. In his works, V. I. Lenin proved that the thorough economic and social substantiation of the distribution of production units is the most important element of the planned management of the socialist economy, the comprehensive development of the economy throughout the nation and in each specific region and the eradication of regional differences in working conditions, in culture and in everyday life. The interaction of the distribution of productive forces with technical progress and with the concentration of production is discussed at length in these works.

The predictions of the founders of Marxism-Leninism regarding the possibility of the planned management of production distribution began to come true after the victory of the socialist revolution, in a society where public ownership prevailed. Directives pertaining to the scientifically substantiated distribution of productive forces are an integral part of all national economic plans in the USSR. Even the State Plan for the Electrification of Russia contained instructions on the development and distribution of production units in eight large economic regions.

Radical changes have taken place in the material and technical base of our society since that time. The economy has become more complex in all economic regions. Each now has a variety of fuel and energy branches, machine building, chemical, light and food industries, a construction industry and a construction materials industry. Progressive changes have also taken place in agricultural distribution patterns.

Under present conditions, the optimal distribution of production units is playing a more important role in economic development and the augmentation of efficiency. This is connected with the need to overcome the irregular distribution of production units among economic zones and regions and with the inclusion of the new fuel, energy and raw material resources of the east and north in our economic turnover. Besides this, ecological and social factors are influencing the development of productive forces more.

V. I. Lenin's instructions on the need to organically combine decisions on distribution with the determination of the efficient level of production concentration are of fundamental importance. We feel that it is extremely important to emphasize this because this famous statement from Lenin's article "The Rough Draft of the Plan for Scientific and Technical Work" (April 1918) is sometimes given a onesided interpretation in scientific literature. Vladimir Il'ich said that the plan for the reorganization and rapid economic development of the country should include the "efficient



distribution of industries in Russia with a view to the location of raw materials and the possibility of minimum losses of labor during the transition from the processing of raw materials to all subsequent stages in the processing of semi-manufactured goods right up to the derivation of the finished product" (vol 36, p 228). This is immediately followed by a demand for the "efficient, from the standpoint of the newest and largest industries, and trusts in particular, merger and concentration of production units at a few large enterprises."

As closely related processes, the distribution and concentration of production units sometimes have conflicting effects on expenditures and final results. For example, concentration can lower production expenses, but this is usually accompanied by longer shipping distances for the finished product, or even for the raw materials at times. In other words, it increases shipping costs. This is why plans for the distribution of production units must be organically related to the determination of the optimal level of concentration, and always with a view to regional factors. The need for this kind of comprehensive approach to the distribution of production units in line with the development and improvement of socialist forms of production organization is stressed in the decisions of the 24th, 25th and 26th party congresses and the decree of the CPSU Central Committee and USSR Council of Ministers on the improvement of the economic mechanism.

When plan decisions on the concentration and distribution of production units are coordinated, efficiency reserves are consistently discovered and mobilized. Conversely, the failure to take a comprehensive approach can reduce the impact of the optimization of enterprise dimensions.

When we discuss the distribution of production units, we cannot lose sight of the principles which must be used as a guide in decision-making. When various plans are being considered, so-called general principles of distribution are the chief point of reference. These presuppose the determination of national economic objectives and statewide interests: the heightened efficiency of social production, a higher standard of living for the Soviet people and stronger defense capability for the nation. Alternative distribution plans which presuppose, for example, the augmentation of sectorial or regional impact by reducing the impact of all social production are unacceptable to us. Statewide interests must always be the chief priority.

Another group consists of sectorial distribution principles. They are employed within the bounds of individual branches or related groups of branches. In many branches the production units are distributed in line with the location of raw materials. The location of material-intensive production units as closely as possible to sources of raw materials is the decisive principle in this group. In a number of branches, however, production units are distributed with a view to the consumer or to labor, energy or fuel resources. Enterprises in some branches can operate at maximum efficiency if they are located in regions with the appropriate combination of raw materials, electric power, fuel and water resources.

A third group consists of regional distribution principles. The economic regions of our nation differ in terms of natural and climatic conditions, the proportions and state of mineral deposits, different areas of unionwide specialization, levels of development and the concentration of industrial and agricultural production and the supply of means of transport. They differ in their supplies of labor resources

and in the development of their social infrastructures. Despite all of these differences, the economy of each constitutes a subsystem of the unified national economic complex. This is why it is important to use the following principles as a guide when decisions are being made on the regional development of productive forces: the efficient territorial division of labor in line with the national economic (or unionwide) specialty of the region; the guaranteed comprehensive development of regions and the equalization of their levels of economic and social development; the formation of optimal interregional and intraregional economic relations. Adherence to these principles aids in the scientifically sound determination of each region's place in unionwide division of labor and the effective use of all of the region's natural and labor resources, productive assets, geographic advantages, etc.

When decisions are made on the distribution of production units, a broad variety of factors must be taken into account at different stages. They determine territorial proportions, the choice of new construction sites, the types of enterprises to be constructed, their capacities, the supply of housing, hospitals, schools and trade enterprises for workers, etc. The role of individual factors and the degree of their influence differ during each specific stage. The influence of the same factor can vary considerably at different times.

The analysis of the impact of distribution on various levels of the unified national economic complex and its quantitative measurement are of fundamental importance. In general (but, to some degree, in oversimplified terms), we can distinguish between four levels on which the impact of efficient distribution is apparent: on the levels of the enterprise, the branch, the region (a large economic region, territorial production complex, oblast or kray), and the national economy as a whole. Despite the fact that calculations of the effectiveness of distribution from the standpoint of the enterprise, branch and region are quite useful, the most reliable and valid basis for decision-making is a calculation process founded on complete information about the anticipated impact and national economic expenditures in connection with the entire group of factors influencing the distribution of production units.

The procedural instructions on "Plans for the Development and Distribution of Productive Forces," ratified by the USSR Gosplan (October 1980), recommend that the heightened effectiveness of social production, connected directly with the territorial structure of the economy and the efficient distribution of productive forces, be determined by a system of indicators of tactical and strategic expenditures on the manufacture and shipment of products, as well as the use of multipurpose local resources. Here the impact of the combination of production units must be taken into account.

Furthermore, when the impact of distribution is being measured, it is important to differentiate between the degree of its effect on labor-intensiveness, on the cost of establishing the necessary working and living conditions for personnel, on the capital, material, energy, water and investment requirements of production, on the level of shipping costs, on expenditures connected with the protection of the ecological environment, etc. The consideration of each factor individually when the impact of distribution is being measured represents one of the essential methodological premises for the value and validity of calculations.

The decisions of the 26th party congress contain a statement about the need to draw up a general plan for the distribution of productive forces over the long range. This general plan, which will be comprehensive, will provide answers from the national economic standpoint to questions about the most efficient use of national territory for the distribution of production units and the steady augmentation of production efficiency during each stage of social development. In other words, it will serve as a scientific basis for the optimal distribution of productive forces.

The need to draw up a general plan is dictated by the requirements of expanded socialist reproduction and has become particularly urgent now that thorough economic intensification has been instituted. The general plan, which will heighten the scientific validity of the entire system of plans, will be of particular value in the better planning of territorial division of labor and will promote the formation of effective regional structures, the harmonious combination of the interests of the national economy, branches and regions and the mobilization of reserves for heightened production efficiency.

The specific approach of the general plan will coordinate the vertical and horizontal development of the economy and will make it possible to find existing disparities, plan ways of overcoming them, guard against future disparities and guarantee the steady and balanced development of the economy on regional levels as well as on the level of the national economy.

In conjunction with the comprehensive program of scientific and technical progress and the general population settlement plan, the general plan for the distribution of productive forces will serve as the scientific basis for the compilation of such documents as basic guidelines for the economic and social development of the country over 10-year periods and national economic five-year plans and for the establishment of a single planning strategy.

One of the important economic objectives of the present day is the accelerated development of the nation's eastern regions, with their rich natural resources. The emphasis on economic growth in these regions was specified by the 24th and 25th party congresses and reaffirmed in the documents of the 26th congress.

The factors of fuel and energy have acquired particular importance throughout the world in decisions on distribution patterns. Just as at present, in the future many countries will be experiencing an increasing shortage of fuel and energy resources. The world prices of these resources, especially oil, have risen numerous times.

The USSR is the only one of the world's highly developed states that bases its economic development on its own energy resources and exports them to other countries. The USSR leads the world in the extraction of coal and petroleum. The output of electric power in 1980 totaled 1,295,000,000 kilowatt-hours, or 1.3 times as great as the world output in 1950. Shipments of Soviet fuel and energy to the CEMA countries are constantly growing. For example, oil exports amounted to 250 million tons in 1971-1975 and 370 million in 1976-1980. More natural gas, hard coal and electric energy are being exported. Total shipments of fuel and electric energy in 1981-1985 will amount to 960 million tons of conventional fuel.

As we know, the regions where fuel, energy and raw material resources are located do not coincide with the locations of the main consumers of these resources, particularly



the branches of the processing industry. The European half of the USSR produces 80 percent of the industrial product and 75 percent of the agricultural product, has 74 percent of the population and consumes 80 percent of all energy resources in the nation. On the other hand, this part of the country accounts for only 10 percent of the geological deposits of fuel and hydraulic power resources. This was the reason for our unavoidable advancement into the east and north, with their extreme natural and climatic conditions, for the fuel and energy resources we need. This has increased proportional capital investments. Freight volumes of fuel, energy and raw materials shipped to the European zone and shipment costs have also increased considerably.

The petroleum and gas industry will develop at a rapid rate in these regions. The output of petroleum, including gas condensate, in northwest Siberia will increase from 312 million tons in 1980 to 385-395 million in 1985 and the output of gas will increase from 156 billion cubic meters to 330-370 billion. The output of coking and energy-producing coals from the Kuzbass will grow. Plans call for the establishment of a number of new large hydroelectric power stations in Siberia, the Far East and Central Asia. This will be accompanied by the accelerated construction of heat and electric power stations. The cheap coal of the Pavlodar-Ekibastuz and Kansk-Achinsk territorial production complexes, which will continue to be developed in the future, will serve as the basis for the erection of large state regional electric power stations. The production of synthetic liquid fuel is to be organized with the use of Kansk-Achinsk coal.

The table below attests to the significant changes in the distribution of fuel and energy resources.

The Change in the Proportion Accounted for by the Nation's Eastern Regions\* in the Extraction of Fuel Resources and the Production of Electric Power (%)

<u>Types of fuel</u>	<u>1940</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>
Petroleum	6.4	18.1	39	57
Natural gas	0.5	29.8	46.5	62
Coal	28.7	43.2	49.2	55
Electric power	8.9	26.2	27.8	28

\* Siberia, the Far East, Central Asia and Kazakhstan.

More fuel is being transported from the eastern regions to the European USSR: from 130 million tons in 1970 to around 700 million in 1980. In the past 10 years shipments of petroleum from the eastern regions to the European part of the country increased 16-fold, shipments of coal almost doubled and shipments of gas more than quintupled. The fuel shipment volume will reach 1 billion tons in 1985.

The factor of transportation has a colossal effect on the effectiveness of production distribution patterns. For example, the average cost of extracting Tyumen' gas (per ton of conventional fuel) is relatively low--no more than 6.6 rubles. When the same gas is transported to Moscow, however, it costs 15.3 rubles. The situation is the same for coal mined in the east. The cost of transporting a ton

of coal from the Kansk-Achinsk basin and Ekibastuz to the European part of the nation is 14-16 rubles, or several times as high as the mining costs. This is why production units with high energy and fuel requirements should be located in the country's eastern regions rather than the European zone. In his report at the 26th CPSU Congress, Comrade L. I. Brezhnev said: "The reduction of shipping costs is an important statewide objective. This can be accomplished through the efficient distribution of productive forces and the optimal planning of freight traffic, with no repeat runs."

In accordance with congress directives, the construction of new production facilities with high energy and fuel requirements has been restricted in the European part of the nation. In Siberia and the Far East, however, this kind of production (as well as production with high material requirements and low labor requirements) will be developed. This is being done for the purpose of limiting and curtailing shipments of fuel and raw materials to the nation's European regions.

An important way of improving the distribution of national productive forces consists in the formation and development of territorial production complexes, especially in newly settled regions. These complexes are not simply a group of branches combined within a particular region, but links of the unified national economic complex, its subsystems, where certain reproductive processes take place. This form of organization provides for the more economical and efficient use of natural resources (especially in newly settled regions) and the mobilization of more sizeable reserves for heightened production efficiency in comparison to isolated enterprises.

As a progressive form of territorial organization, balanced and comprehensive development and the efficient distribution of productive forces, the territorial production complex most completely fills the requirements of the law of planned and proportional development and the basic economic law of socialism. This form of organization is an organic part of the socialist planned economy. It has become increasingly prevalent in the developed socialist society.

As elements and subsystems of the unified national economic complex, the territorial production complexes are autonomous entities and are therefore relatively independent. Their basic feature is territorial community. This is not merely a specific geographic location, but a territory distinguished by a high concentration of valuable natural resources. This is why the boundaries of the complex generally do not coincide with existing administrative boundaries. Areas of unionwide specialization always form the nucleus of their production and economic unity. They determine the place of these complexes in territorial division of labor and organically connect them with the development of the unified national economic complex.

One of the fundamental distinctive features of the territorial production complex is the development of areas of unionwide specialization combined with the comprehensive and balanced development of the production and social infrastructure. The comprehensive approach, required by the nature of economic systems developing according to plan, is universally applied here. This makes it possible to consider the interaction of such trends in physical production as the differentiation of branches, the accelerated concentration of production and its more pronounced spatial separation (the accelerated development of industry in the east and north



is one sign of this) with a simultaneous rise in the level of territorial production concentration.

All of this means that territorial production complexes differ in terms of dimensions, geographic locations and areas of specialization and, consequently, in terms of their structure. The scientific and practical problems connected with the formation of these complexes are more difficult and more complex than problems in the distribution of individual enterprises.

The territory of the West Siberian territorial production complex, located on the site of large oil and gas deposits, covers 1.75 million square kilometers, or triple the area of, for example, France. Its areas of specialization are oil and gas production, the petrochemical and chemical industries, the lumber and wood-processing industries and others.

The Sayansk territorial production complex is only around one-thirteenth this size--140,000 square kilometers. One of the specific features of this complex is the dominant role of branches of the processing industry: electrical engineering (12 plants on one construction site in Minusinsk), railway cars (the Abakansk plant), aluminum (the plant in Sayansk) and others. The energy base of this complex is the Sayano-Shushenskaya GES, the construction of which will essentially be completed during the 11th Five-Year Plan. Here it is important to stress that these complexes are never set up only as a source of fuel and energy or raw materials. Branches of the processing industry are being developed in each complex, but in the Sayansk complex they play the leading role.

The Pavlodar-Ekibastuz territorial production complex is being developed intensively. The output of coal here now exceeds 70 million tons a year. The average cost of mining Ekibastuz coal (per ton of conventional fuel), now and in the future, is three-fifths the cost of mining Kuznetsk coal, one-sixth of the cost in the Donetsk basin and one-ninth of the cost in the Moscow suburbs. Three power blocks are already operating at the first Ekibastuzskaya GRES. Their total capacity exceeds that of Dneproges. Another 37 such blocks will be established here in the future. When construction work has been completed on the long-range power bridge for the transmission of direct current from Ekibastuz to the nation's center, the European regions, where there is a shortage of electric power, will receive tens of billions of kilowatt-hours of electricity. Enterprises of this complex are already supplying the national economy with tractors, ferroalloys, aluminum oxide and petroleum refining products.

The development of various mineral deposits in the BAM [Baykal-Amur Trunk Line] zone is having a profound effect on the development and distribution of productive forces in the east. Around 132,000 builders are working on this trunk line and have completed 1,900 kilometers of road. The western section of BAM (to Kichera) is already open to traffic. The South Yakutsk complex is being successfully developed. This is the first of the complexes to be created in the BAM zone. The Nyurengri coalfields here have already provided the nation with more than 2 million tons of coal.

The complex established on the site of the Kursk magnetic anomaly has been assigned an important function. It is significant because it is being established in a developed, well-settled region.

In the near future economic growth rates and economic efficiency will depend more and more on the formation and development of the system of territorial production complexes. As yet, however, the complex has not fully revealed its economic and social advantages as a progressive form of territorial organization.

As a result of shortcomings, especially disorderly planning, their potential has not been used in full. Enterprises established by departments within the framework of territorial production complexes are not always capable of employing the latest technology and making comprehensive use of raw materials. Thorough specialization is being impeded by suspicions about the reliability of cooperative production, and sometimes even by outdated economic ideas.

If territorial production complexes are to develop successfully and reveal their advantages, they must be treated as independent objects of planning, comprehensive programs must be drawn up for their development and effective forms must be created for the management of this development.

The creation of interdepartmental commissions can be of great value in the better planning and coordination of the activities of ministries and departments participating in the formation and development of territorial production complexes and in overcoming their differences. The USSR Council of Ministers has already set up a commission to study problems in the development of the West Siberian oil and gas complex. A similar commission has been formed by USSR Gosplan. The study of the experience of these commissions and its application to other territorial production complexes of unionwide significance will aid in their balanced and highly effective development.

In his report at the 26th CPSU Congress, L. I. Brezhnev said: "In the 1980's the careful and economical use of labor resources will be particularly important. This will be difficult and will necessitate the resolution of many economic, technical, social and indoctrinational problems." The increasing effect of labor resources on the regional distribution of production units is complex and contradictory. To a considerable extent, this is connected with the widely differing reproductive behavior and migration patterns of the population in different regions. The demographic situation in the eastern and central RSFSR, the Baltic zone and a number of other regions is not good. Central Asia, Kazakhstan and Azerbaijan, on the other hand, have high rates of manpower increase.

Some economists believe that the unfavorable demographic situation has given rise to the manpower shortage. This interpretation does not seem completely accurate. After all, the shortage was already noticeable during the 10th Five-Year Plan, when the increase in labor resources amounted to 11.2 million people, or more than during preceding five-year plans. The demographic factor will only have its full effect in the 11th and 12th Five-Year Plans. At present, the shortage of manpower is largely the result of the sometimes inefficient use of labor resources and the discrepancy between available manpower and the number of jobs. This discrepancy is particularly noticeable on the territorial level.

Whatever the demographic situation may be, in the planned socialist economy the creation of new jobs in physical production and the non-production sphere must always be balanced with the actual growth of the labor force. This is an elementary

requirement of the planned economy. Planning traditions, however, took shape under the conditions of primarily the extensive type of reproduction and a sufficient supply of manpower. Traditional planning methods were not "designed" to prevent disparities between the supply of manpower and the number of jobs. It is no secret that many ministries, guided by departmental considerations, often made decisions on the location of new enterprises without considering the supply of manpower in the region, relying primarily on the spontaneous migration of labor forces. This gave rise to the practice of "appropriating" manpower.

The narrow sectorial approach of some ministries and departments to the distribution of production units and the shortcomings in comprehensive planning complicated the problem of unfilled jobs. Until recently, oblast and kray planning agencies played a minimal role in the resolution of this problem. Although they had a better idea than central agencies of the state of labor resources, they were unable to actively influence the creation of new jobs and the distribution and employment of labor resources.

The supply of manpower is affected by the state of sectorial and territorial production concentration. In a number of branches the level of concentration is not high enough at some existing enterprises and at a number of enterprises now being built. The labor requirements of production at these enterprises are 2-5 times as great as those of enterprises with the proper level of concentration. The opposite tendency is apparent in the development of territorial production concentration. Many oblast and kray centers account for 60-80 percent of the industrial product of their territory. But some ministries, guided once again by narrow departmental interests, are making every effort to gain authorization to locate new enterprises precisely in these centers because they have a strong construction base. The shortage of manpower and water resources, ecological considerations and other factors are not always taken into account. Excessive territorial concentration intensifies intra-regional disparities in the distribution of production units, retards the development of branches of the social infrastructure and gives rise to the needless migration of labor resources.

The statement made at the 26th CPSU Congress, regarding the need to resolutely put an end to the practice of allocating capital investments and material resources to certain regions simply because they have well-established construction organizations, will be of fundamental importance in overcoming these problems. Furthermore, the network of these organizations and construction industry bases must be completed with a view to the expanding geographic boundaries of our new construction projects.

The accelerated development of Siberia and the Far East will necessitate the attraction of manpower from other parts of the country. Migration in these regions, however, is of a dual nature. For example, in Tyumenskaya Oblast there is a positive migration balance but only part of the new population settles here. In addition to being influenced by the harsh natural and climatic conditions (permafrost, extremely swampy land and the long winter), migration patterns are also affected by the inferior supply of cultural and consumer services, housing and pre-school establishments. There is also another peculiarity of manpower migration patterns in Siberia. Too many people are leaving rural areas, and this affects the rate of agricultural development.

The differentiation of regions according to their supply of manpower (shortage, balance or surplus), the investigation of reasons for intraregional and inter-regional migration and the improvement of planning methods and practices in accordance with the decree of the CPSU Central Committee and USSR Council of Ministers on the improvement of the economic mechanism and with the decisions of the 26th CPSU Congress will guarantee the correspondence of the number of jobs to the size of the labor force in different regions and counteract the undesirable aspects of spontaneous migration.

The improvement of the planned management of the distribution of productive forces in the nation is an essential condition for constant and balanced economic development and heightened efficiency and will guarantee the attainment of the objectives set at the 26th CPSU Congress.

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## LABOR

### AUCCTU SECRETARY ON SOCIAL WELL-BEING

Moscow TRUD in Russian 24 Dec 81 p 2

[Article by A. Biryukova, secretary of the All-Union Central Council of Trade Unions (AUCCTU)]

[Text] In a speech to the November (1981) Plenary Session of the CPSU, Comrade L. I. Brezhnev emphasized: "The growing interdependence of economic and social progress characteristic of a well-developed socialist society takes a leading position in our plans for the social program."

Guided by the decisions of the 26th CPSU Congress, the party intends to effect a broad series of measures for consistently improving the national welfare and for creating more and more favorable conditions for manifold personality development, highly productive labor, improved health and leisure for the Soviet people and a continued rise in their educational level--all that constitutes our socialist way of life.

For the new measures, which are to be funded from central sources, 16.6 billion rubles are earmarked in the 1985 budget, including about 10 billion rubles to raise workers' and employees' pay. The average monthly pay of the national economy's workers and employees will grow within five years by 14.5% to exceed 193 rubles in 1985. Kolkhoz workers' pay for production within the national economy will rise by 20%.

In exercising one of their basic functions--that of protection, Soviet trade unions participate directly in realizing social development programs and the enhancement of national welfare.

One of the major points in the social program of the 10th Five-Year Plan, for example, was carried out with the participation of the trade unions: raising the salary of those employed in education, health, culture and other nonproductive branches. As a result, the salaries of 31 million persons were raised.

The last two Five-Year Plans saw the introduction or increase of coefficients in the earnings of many categories of workers and employees occupied in the northern and eastern regions of the country. Increments were established for continuous length of service in the European North and in some regions of the Far East.



The central government will implement large-scale measures to raise and improve earnings during the current Five-Year Plan. Thus, in proportion to the creation of preconditions and accumulation of resources, there is foreseen a gradual rise in minimum earnings to 80 rubles monthly and in the rates for worker wages and employee salaries, principally among those in productive branches of the national economy. In the coal industry this will be essentially carried out in the first quarter of 1982.

Workers receive a significant amount of material goods and services through public funds for consumption. More than half these funds are granted to the population in monetary form as pensions, scholarships, grants and paid vacations. Public funds add to each worker's and employee's family 23% of their total income and 19% to kolkhoz workers' families. Almost 40% of public consumption funds constitute the budget for state social insurance, which the trade unions administer. The average monthly pension of working pensioners will be increased by almost 30% in the current Five-Year Plan from funds covered by this budget. Compensation for temporary disability--calculated on the basis of one working day--will rise by 20%. The monthly pension rates for workers in the coal, shale and metallurgical industries will be raised. The pension allowance for kolkhoz workers and the material and living allowance of disabled veterans and veterans of the Great Patriotic War will be improved and privileges for pension payment to working pensioners will be expanded in scope. There will be higher monetary norms for food budgets at homes serving disabled veterans and the aged.

Recognizing that aid to dependent children is an important emphasis of our social developmental program, the CPSU Central Committee and the USSR Council of Ministers have adopted resolutions to increase state aid to dependent children and to further improve social means of population maintenance. Implementation of these and some other measures will benefit over 4.5 million families with children and almost 14 million pensioners.

State social insurance, especially in recent years, has always been one of the important factors in the enhancement of the national welfare. I call to mind that in this year alone, the budget for state social insurance amounts to 38 billion rubles. And it is very important that every ruble and every kopeck be spent with economy and purpose.

Incidentally, some trade union councils and committees tolerate the most flagrant violations of fiscal responsibility. It is a fact that preventive sanatoria are used by athletes as hotels or for various meetings and seminars. Serious violations are tolerated in issuing sick-leave certificates and in payment for sick leave. Trade union agencies should deal with similar incidents in the most decisive manner.

One of the most important social tasks for trade unions is the Soviet people's health and the organization of their leisure time. During the past Five-Year Plan, trade-union committees and councils continued to render active assistance to health agencies by organizing primary health-care services to industrial

workers, kolkhoz workers and employees. During this period the number of beds in medical sanatorium units increased by 14.4%, the number of factory medical units rose by 20.3% and the network of health stations staffed by physician substitutes has grown.

Each year brings an increase in the numbers of workers visiting trade-union health resorts. Between 1976 and 1980, 126.9 million workers and their children altogether in the USSR vacationed and improved their health at public expense thanks to funds for social insurance.

Unfortunately, far from each one among us who wishes health-resort accommodations is provided with them. One solution is to build new health resorts and organize their activities more efficiently. Regrettably, as current figures show, many offers made to workers of free or advantageously arranged vacations remain unutilized and there is a large number of no-shows at resorts, especially in the period from autumn to winter. Losses also occur because patients are incorrectly selected. Sanatorium accommodations were provided last year to 18,000 persons for whom health-resort treatment was contraindicated. Committees and councils of trade unions are to observe strictly the established procedures for assignment of sanatorium accommodations and judging on principle any violation on that score.

In the 10th Five-Year Plan there emerged, if you will, a comprehensive approach by trade-union and economic organizations to solving problems that transect plans: problems in the improvement of working conditions and job safety for industrial workers, agricultural workers and employees. Recently the trade unions' activity has been directed at creating long-term, large-scale projects "from the techniques of safety to the safety of technology," as proposed at the 26th Party Congress of the CPSU by Comrade L. I. Brezhnev. Basically, technical and technological safety will be established on a normative series of state worker-safety standards that has in essence been worked out.

The fulfillment of complex Five-Year Plans to improve working conditions and safety and to take measures for health improvement are being constantly monitored by trade-union organizations. As a result of their implementation, over 25,000 industrial facilities will be reconstructed and there will be increases in the number of beds at convalescent homes by 13 million and improvements of working conditions for 20 million persons.

The trade unions' and economic organizations' effort to improve working conditions and safety has made it possible to reduce occupational injuries by 24.2% in 1980 compared to 1975 and to reduce illness-related absences by 26%. Last year almost every second industrial enterprise operated without an accident. But we must not flatter ourselves with that which has been achieved. In a number of branches, the accident rate is slowly falling. But in certain enterprises there are last-minute rushes to fill production norms, excessive haste, with a high noise level and working conditions that remain below contemporary

requirements. Almost one-half of industrial jobs and over 70% of unloading and loading operations are done manually, without automation and at times through heavy physical labor.

The way to fundamental improvement of working conditions and safety is the further acceleration of scientific and technical progress foreseen by the Five-Year Plan. We intend to institute a broad spectrum of progressive technological processes and to raise the output of new machines and equipment, means of transport and instruments. Production will be automated at an increasing rate. In order to mechanize jobs involving heavy work and unfavorable conditions, we foresee the creation and adoption of new types of lifting and transportation, loading and unloading equipment and warehouse devices and robots that are used almost in all branches of the national economy. In a five-year period, almost 8 times more automatic manipulators (industrial robots) altogether are to be manufactured than in the past Five-Year Plan.

With the cooperation of trade unions in every branch, complex plans have been developed for 1981-1985 to improve working conditions and safety and to implement health measures. The plans foresee substantially greater efforts to improve working conditions and safety. It is also characteristic that capital investments will be directed primarily, not towards new industrial construction, but towards the technical re-equipping and the reconstruction of operating enterprises. The trade unions have been charged with maintaining constant active observation of how the intended measures are implemented and drawing into closer cooperation the active core, millions strong, among the workers themselves.

The broad scope of housing construction is a noteworthy aspect of Soviet society. Over 50 million persons have moved into new homes during the present Five-Year Plan. A related task has fallen to the trade unions--that of working with administration to allot living space built for workers of enterprises and organizations. We have not yet overcome inadequacies in this area. Trade-union committees and councils have been obligated to organize stringent public surveillance over compliance with the established procedures for living-space allotment and, in so doing, to maintain particular attentiveness, objectivity and procedural observance, as was said at the 26th CPSU Congress.

A central problem of the entire Five-Year Plan, emphasized at the November Plenary Session of the CPSU Central Committee, is the food problem. In order to provide the population more adequately with food, in accordance with the resolution of the 26th CPSU Congress, the party has worked out a special food program. The unions are making an effort to participate in resolving the problem successfully. Above all they aim to increase their influence in the area of raising agricultural production, which is the determinative factor in the food program.

The development of subsidiary farm plots, designated as a part of our social wealth at the 26th CPSU Congress, is receiving more trade-union attention.

A considerable position in the effort to increase the population's food supply is taken by the subsidiary plots of industrial enterprises and by collective horticulture.

In the 11th Five-Year Plan, truck-gardening and horticulture, as well as all types of enterprise-owned subsidiary plots, will be developed more extensively and rapidly.

In each part of the social program and in each of its lines, the interests of the working man and the daily life of millions of Soviet people are represented. The Soviet trade unions, in preparing for their regular 17th congress, see it as their chief task to aid by all possible means and in all possible forms in creating social measures and always to base their efforts on the idea that the specific concern for specific persons and their needs and requirements is primary in the party's economic policy.

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## LABOR

### KIRGHIZ TRADE UNION PLENUM ON LETTERS, SUGGESTIONS

Frunze SOVETSKAYA KIRGIZIYA in Russian 6 Dec 81 p 1

[Article: "An Important Task of the Trade Unions"]

[Text] Measures to improve the work of the republic's trade unions on the letters and suggestions of workers in the light of the demands of the 26th CPSU Congress were discussed at a Plenum of the Kirghiz Council of Trade Unions which was held on 3 December.

A report was delivered by the chairman of the Kirghiz Council of Trade Unions E. Abakirov.

The following took part in the discussion of the report: K.A. Abdyrazakov, the chairman of the Oshskaya Oblast Council of Trade Unions; P.N. Poslavskiy, a team leader at the Frunze Instrument Making Plant imeni the 50th anniversary of the Kirghiz SSR; N.D. Petrovskiy, the chairman of the republic trade union committee for geological surveying workers; K.A. Orozaliyev, the Minister of Motor Vehicle Transport and Highways of the Kirghiz SSR; D.A. Eshenkulova, a polisher at the "Kirgizmebel" Production Association; and others.

The reporter and the speakers noted that as of late the republic's trade unions have substantially increased their attention toward workers' letters and the organization of the reception of workers. Most of the letters, applications, and complaints of citizens are checked and examined punctually, objectively, and on the spot.

The speakers devoted a great deal of attention to an analysis of the shortcomings which exist in one of the most important sectors of the work of trade unions and mapped out concrete ways to eliminate them. It was pointed out that the Kirghiz Council of Trade Unions, the oblast councils, the republic trade union committees, and the local trade union bodies have not yet succeeded in having work with workers' letters be regarded as the direct duty of all leading trade union workers. The primary duty of every trade union council and committee is to constantly improve the style and methods of its work, to improve the working, living, and rest conditions of workers, and to be sensitive and attentive to their needs and requirements.



The Second Secretary of the CC of the Communist Party of Kirgiziya V.A. Makarenko spoke at the Plenum.

An important direction of the work of the trade unions and their agencies, comrade Makarenko said, is the defense of the rights and interests of the workers, a strengthening of socialist legality, and an improvement of the system of examining the proposals, applications, and complaints of citizens. The Kirghiz Council of Trade Unions has carried out a number of measures aimed at improving work with the letters and oral declarations of workers.

In the decree adopted by the Central Committee of the Communist Party of Kirgiziya on the state of work with citizens' letters and on organizing receptions for citizens in the Kirghiz Council of Trade Unions, the oblast councils of trade unions, and the republic trade union committees in the light of the decisions of the 26th CPSU Congress it is noted that this work does not yet fully meet the demands of the party congress. There are instances of an inattentive and superficial attitude toward workers' letters. The examination of some of them is dragged out over a long period, which is one of the reasons for the appearance of repeat letters and frequent appeals by citizens to republic organizations and central bodies, right up to the CC CPSU. Many trade union committees do not take strict action against those who permit a lack of discipline and a lack of organization in the work with workers' letters and suggestions.

A defense of the rights and interests of the workers and a further strengthening of socialist legality and democracy has to become a very important direction in the work of the Kirghiz Council of Trade Unions, the oblast trade union councils, and the republic committees. It has to be seen to it that every valid suggestion, application, or complaint is examined and that just decisions are made on them. It is necessary to bring about the strictest accounting of workers' complaints and applications, to systematically analyze their character and content, to discover and eliminate the reasons which give rise to just complaints, and to constantly control the examination of the issues raised in workers' letters. This work has to be carried out in close connection with the accomplishment of the tasks of economic, social, and cultural construction.

The decree of the CC of the Communist Party of Kirgiziya should be discussed at the oblast trade union councils and republic trade union committees and at meetings of primary trade union organizations, and concrete measures should be worked out to improve the work with workers' letters and oral presentations. Special attention here should be directed toward increasing production efficiency and work quality, accelerating scientific and technological progress, creating the conditions for highly productive work at each work place, strengthening labor discipline, satisfying the social and cultural and everyday needs of the workers, and strengthening the struggle against reporting distortions, the squandering and theft of socialist property, and bribery and speculation. It is essential to increase the role of the trade unions in ideological-educational and mass political work among the broad masses.

Trade union organizations have the task of directing their most careful attention toward the category of letters which concern the distribution of housing and dis-

missal from work. There are still very many shortcomings here and various kinds of violations and abuses can be encountered. The trade unions must not allow any of these instances to escape from its field of vision and they must look into them carefully and objectively.

There has to be an increase in the personal responsibility of leaders and other officials for the correct organization of work with workers' letters and oral appeals. The leaders of the Kirghiz Council of Trade Unions and of the oblast councils and republic committees have to take a more demanding approach to the examination of workers' letters, devote more attention to the personal reception of citizens, and to make a wider practice for these purposes of trips to enterprises, construction sites, institutions, kolkhozes and sovkhoses, and educational institution..

The report and election meetings and conferences have now been completed in all of the primary trade union organizations. Next year the 14th Congress of Kirghiz Trade Unions will take place. All of this is placing a large responsibility on party, trade union, and economic agencies. The trade unions have to concentrate their chief attention on the extensive development of socialist competition and on the study and dissemination of advanced experience.

A large amount of work will have to be done to bring about an extensive development of a socialist competition for a worthy reception of the 60th anniversary of the formation of the USSR and for the development and adoption of socialist commitments for 1982. This work has to be conducted on a high political and organizational level. As was stated in the speech by comrade L.I. Brezhnev at the November (1981) Plenum of the CC CPSU, the chief place in the commitments has to be occupied by the issues connected with an economy of metal, raw materials, materials, and fuel and energy resources, an improvement of output quality, and an increase of production efficiency.

The trade unions have to occupy the most active position in solving the problems of strengthening labor discipline, reducing labor turnover, increasing the production of consumer goods and improving their quality, and developing the service sphere.

In conclusion, comrade Makarenko expressed his confidence that the workers of the Kirghiz Council of Trade Unions and of the oblast trade union councils and republic trade union committees will employ all of their strength, knowledge, and experience for a further improvement of the forms and methods of work with the letters and personal appeals of citizens and will direct their efforts toward the mobilization of the republic's workers for the successful fulfillment of the decisions of the 26th Party Congress and the plans and socialist commitments of 1981 and of the 11th Five-Year Plan as a whole.

The corresponding decree was adopted on the issue under discussion.

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## LABOR

### UZBEK PLANT FACES LABOR SHORTAGE

Tashkent SOVET OZBEKISTONI in Uzbek 24 Jul 81 p 2

[Article by M. Karomov, SOVET OZBEKISTONI correspondent: "The Enterprise Is Going Up, But..."]

[Text] The cottonseed oil extraction plant being erected in Kasan will become one of the great industrial enterprises of the future. According to plans, the plant will have a capacity to process 1,200 tons of cotton seed daily. Specifically, it will have the ability to prepare 500 tons of husks, 500 tons of cotton cake, and 200 tons of oil. This will doubtlessly play a great role in the execution by the Kashkadarya Oblast of the tasks set forth by the 26th Party Congress. For instance, consumers will be supplied with copious quantities of oil and of very nutritious feed for livestock.

It must first be said that the construction of the enterprise was designated a civilian construction. Builders of Construction Trust No 13 of the republic's Ministry of Construction--the chief contractor--have selflessly worked alongside skilled specialists and construction and assembly workers from Volgograd, Saratov and Tambov. Assistants drawn from oblast and rayon organizations have also labored productively. More than 32 million rubles of the 34 million rubles capital sum allocated in the plan have been appropriated. Dozens of shops and sections whose construction is finished have been turned over to the state commission for evaluation. These are not the only achievements, of course. Collectives of mechanized mobile columns 6 and 122 headed by Comrades Yahyo Norqulov and Shodmon Rahmonov of Construction Trust 13, builders of several trusts subordinate to the "Minmontazhspeksstroy" and "Soyuzliftmontazh" organizations, and assistant construction workers from the "Karshistroy" administration, the "Oblkolkhozstroy" trust, and the Shakhrisabz, Itab, Yakkabag and Guzar rayons have especially acquitted themselves in a selfless manner.

However, 2 million rubles worth of construction and assembly work must still be carried out before the plant is ready for use. Members of the construction headquarters of the oblast party committee which has examined this situation is expressing the hope that the enterprise will begin to produce its first products in August of this year.

On one hand, as a matter of fact, there is good reason for such "hope." For example, valuable equipment and technological apparatus imported from the German Federated Republic and elsewhere have been installed in production shops of the enterprise. Cotton cleaning structures have been put into motion. The extraction shop has passed its test.

However, on the other hand, with every day that the enterprise gets closer to its start-up, a problem is making its future "bosses" anxious: who will supply the plant with workers and engineer and technical cadres? In order to reach its full capacity, the plant needs 800 workers, engineers and technicians in 20 different specialties. At the same time, only 261 people have been hired by the enterprise so far. One-hundred and twenty future workers are being taught at the rural vocational school No 253 in Kasan. But, unfortunately, this alone cannot assure production at the enterprise. The plant presently has an acute need for people in more than a dozen professions such as separators, metal workers, and electricians. But the amazing thing is that this problem has so far not alarmed the republic Ministry of Food Industry.

Another thing. The problem of assuring the plant's workers, engineers and technicians standard work conditions in the future is still on the agenda. True, construction of a dormitory for 200 people and 2 residential buildings each with 32 rooms has been finished. However, this is still very little compared to the 8,000 square meters of living quarters whose construction was planned. We say that the best thing would have been to carry out the construction of the enterprise and the housing at the same rate. Only in that way is it also possible to prevent the turnover of cadres at the enterprise in the future.

9439

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## LABOR

### SIBERIAN RESEARCH INSTITUTES WORK CLOSELY WITH INDUSTRY, AGRICULTURE

Moscow PARTIYNAYA ZHIZN' in Russian No 19, Oct 81 pp 22-26

[Article by N. Logachev, chairman of the Presidium of the East Siberian Branch of the USSR Academy of Sciences, Siberian Department, and corresponding member of the USSR Academy of Sciences: "We Are Concentrating Scientific Personnel in the Main Areas of Siberian Economic Development"]

[Text] According to the decisions of the 26th CPSU Congress, current trends in industrial production in East Siberia will develop more quickly in the future. Of course, when the present plans are carried out, we will have to rely on the extensive participation of scientific research establishments, especially those located in Siberia. In connection with this, specific tasks lie ahead for the Siberian Department of the USSR Academy of Sciences and its regional scientific centers in Tomsk, Krasnoyarsk, Irkutsk, Yakutsk and Ulan-Ude.

We could list many projects of practical value, conducted at the Irkutsk Scientific Center, the second-ranked center (after the main branch in Novosibirsk) of the Siberian Department of the USSR Academy of Sciences. For example, the Siberian Power Engineering Institute has developed a "fuel and energy complex" subsystem for the automation of the planning calculations of USSR Gosplan. This will make plans for the development of power engineering much more reliable. The expected economic impact will be around 100 million rubles. At the Irkutsk Institute of Organic Chemistry a method has been discovered for the derivation of divinylsulfide from acetylene and sodium sulfide. This will make the Soviet chemical industry the world leader in the production of a new and inexpensive monomer. The polymers derived from it will lead to dramatic improvement in the technology for the separation and cleaning of enzymes, antibiotics and nonferrous and precious metals, will reduce the cost of oil production and ensure the complete recovery of lead and cadmium from industrial sewage.

The collectives of our scientific research institutes have been much more active in the integration of science with industry and agriculture in recent years. For example, during the last five-year plan they maintained close contact with more than 200 enterprises in the country on the basis of economic contracts and agreements on creative collaboration. The volume of contracted projects was 2.7 times as great as that of the Ninth Five-Year Plan, with a cost exceeding 25 million rubles, or 8 million more than the planned figure. The findings of more than 400 research projects are being used in the production sphere. Many of them have won

certificates and medals at the USSR All-Union Exhibit of National Economic Achievements and some have won the State Prize of the USSR. Valuable results have been obtained by physicists, chemists, biologists, geologists, power engineers and economists.

The scientific potential of the Irkutsk cis-Angara zone takes in nine academic institutes, the same number of large VUZ's and around 30 sectorial institutes and their branches. A large scientific staff has taken shape here, including 9 corresponding members of the USSR Academy of Sciences, more than 140 doctors and almost 2,500 candidates of sciences. The colossal objectives of the 11th Five-Year Plan require a dramatic increase in the impact of scientific research and the concentration of forces in major areas. The problem of organizing concerted action by scientific collectives, regardless of their departmental affiliations, is of primary significance.

A technical and economic council has been set up by the CPSU obkom to coordinate efforts in this area. It consists of six sections, one for each of the main economic branches being developed in the oblast: power engineering, nonferrous metallurgy, chemicals, geology, machine building and the wood, pulp and paper industry. The council analyzes scientific and technical problems inhibiting the elevation of indicators of the production activity of associations and enterprises and helps them establish closer contact with scientific institutions for the planning of joint research projects. For example, the problem of enriching coal from Cheremkhovo at the Angarsknefteorgsintez Association through the mechanization of labor-intensive processes and the modernization of equipment to reduce environmental pollution and improve product quality was thoroughly investigated. As a result, a plan for joint research with an anticipated economic impact of 10 million rubles was compiled. After analyzing the research being conducted by scientific establishments for enterprises in Irkutskaya Oblast, the council took charge of 69 projects, also with a considerable anticipated impact.

The presidium of the East Siberian Branch of the Siberian Department received valuable assistance in its coordination of scientific research when a party committee on academic institutions was created. The party now has a much more noticeable effect on the impact of scientific work in general.

When the party committee thoroughly analyzed the state of affairs, it discovered a number of shortcomings in the coordination of research on the inter-institute level and within individual collectives, particularly in projects connected with the construction of the Baykal-Amur Trunk Line and the development of adjacent territories. The issuance of scientific recommendations for efficient economic planning was not envisaged at the majority of institutes, and problems in the incorporation of research findings in the national economy were not given enough attention. On the advice of the party committee, institutes revised their research plans connected with BAM [Baykal-Amur Trunk Line] to stress the importance of regular reports, specific recommendations and the attainment of practical results. The presidium of the Irkutsk Scientific Center set up a working commission to study scientific and technological problems in the construction of the trunk line. With the aid of concerned organizations, it prepared proposals regarding the development of natural resources in regions close to the western section of BAM.

We are not always able, however, to elaborate our useful scientific ideas on schedule, and the use of research findings is sometimes unjustifiably delayed. I would like to say that success depends largely on the correct organization of the interaction of scientific and production collectives. The difficulty here consists in the need to combine respect for tradition with the ability to depart from it in search of the best form of concerted effort to solve a specific problem. There are many such forms. The choice of the necessary form is generally the responsibility of special working groups set up in institutes. When necessary, the technical and economic council of the CPSU obkom and the party committee of the scientific center assist in the choice. Experience has shown that party influence is particularly strong during the stage of research organization.

One form of labor and resource concentration that has proved to be quite efficient and has been widely used within our system in recent years is the organization of "branch" (in relation to academic institutes) laboratories at head sectorial institutes or enterprises of union ministries, as well as sectorial laboratories at the academic institutes of Irkutsk. The creation of subdivisions of dual jurisdiction, in which scientific and procedural supervision by the academic institute is combined with the good material and technical capabilities of the sector, considerably shortens the distance between the idea and its elaboration and implementation. Many major projects have been completed in a fairly short time precisely as a result of the organization of these laboratories.

An effective form of concentration is concerted effort by scientific, project planning and design, and production collectives of various departments to solve important national economic problems according to a single comprehensive program. For example, this kind of program was used to determine the precise geological and seismic conditions of the BAM project. The establishments participating in this study were the Institute of the Earth's Core of the Siberian Department, USSR Academy of Sciences, the Irkutsk Geofizika Production Geological Association of the RSFSR Ministry of Geology, the East Siberian Construction Engineering Survey Trust of RSFSR Gosstroy and several scientific establishments in Moscow and other cities.

The most important practical result of the collective research was the revision of the seismic specifications of the BAM route in the section between the Baykal range and Tynda, where the natural conditions are particularly complex. This led to the recommendation that builders use lighter structures. This is expected to save 30 million rubles.

Despite the practical aims of this research, it was of a truly fundamental nature because it resulted in a study of the structure of the earth's interior in the BAM zone to a depth of 80-100 kilometers and proved that the decisive seismic factor in the region is the gradual distension and disintegration of the lithosphere, which creates deep fissures and trenches, like the exceptionally deep trench of Lake Baykal. Although the value of this research cannot be calculated in economic terms, it is obvious that it will be useful in the broad-scale economic development of the BAM zone and the formation of a new industrial belt in this zone, as envisaged in the decisions of the 26th CPSU Congress.

The long-range, multipurpose Sibir' program for the comprehensive development of natural resources, drawn up by the Siberian Department of the USSR Academy of



Sciences, is conclusive evidence of the impact of concerted effort by scientific and production collectives. More than 200 sectorial research institutes, VUZ's, design organizations and production enterprises are working with academic institutes on this program. Irkutsk institutes are working on 19 of the 36 sections of the Sibir' program.

Definite reserves for the augmentation of scientific potential in the Irkutsk cis-Angara zone can be found in broader contacts between academic institutes and VUZ's. The agreement on cooperation between the Irkutsk Council of VUZ Rectors and the Presidium of the East Siberian Branch of the Siberian Department, USSR Academy of Sciences, forms an excellent basis for participation by VUZ collectives in research projects. Academic institutes and the largest VUZ's in Irkutsk are turning into scientific training complexes. Their first steps testify that this form of interaction helps to augment the creative potential of collectives and the productivity of research and improve the training of specialists.

The presidium and the party committee of the Irkutsk Scientific Center and the administrators and party organizations of academic institutes have made an effort to improve the structure of scientific establishments for the concentration of forces and material resources in the most important areas and to discourage less pertinent research projects.

The incorporation of research findings is indisputably one of the main areas of the work of party organizations. Participation by the party aktiv is useful here, both in overseeing the activities of individual subdivisions and in organizing the incorporation of research findings. A thorough study of this process can reveal instances of faulty performance, clarify reserves for the improvement of research quality, cultivate respect for applied research in institute collectives, organize an efficient system of moral and financial incentives for these collectives and make this incorporation process an important element of socialist competition.

This applies completely to the work of the Organic Chemistry Institute of the Siberian Department, USSR Academy of Sciences, and its party organization. The incorporation commission here, made up of members of the party bureau in addition to representatives of the board of directors and academic council, is operating effectively. The course and results of incorporation are regularly discussed at sessions of the party bureau and academic council and at party and workers meetings.

A number of shortcomings in the work of the incorporation commission and the absence of a standard policy in this extremely important field were pointed out at an institute party meeting held to discuss the practical use of the results of completed research projects. The meeting recommended an increase in the commission membership and the reinforcement of its leadership. Annual and five-year plans for applied research were drawn up and the precise monitoring of these plans was organized.

It is no secret that many obstacles, in the form of all types of discrepancies, interdepartmental barriers and excessive concern for local interests, can sometimes be encountered along the way to innovations. These can only be overcome by the firm and party-minded protection of national economic interests. This is not always within the power of collectives, however, even one as experienced and strong as the



collective of the Organic Chemistry Institute. For example, the "mival" biostimulant developed here, which displayed brilliant prospects during many years of testing for its use in agriculture and medicine, has come to a bad end. Its use on cotton plantations in just Yangiyul'skiy Rayon in Tashkentskaya Oblast has produced an economic savings of over a million rubles within 2 years by heightening the germinating capacity of cotton, its resistance to diseases, its productivity and its quality. The more extensive use of mival in farming and in animal husbandry is being impeded by the small quantities now being produced. Only the experimental production of this compound on a small scale has been organized.

The party bureau of the Organic Chemistry Institute and its board of directors have made a considerable effort to organize the industrial production of mival, or the allocation of capital for the required raw materials. Neither the requests of the institute nor the numerous messages sent by the Presidium of the USSR Academy of Sciences and the Uzbek SSR Ministry of Agriculture to the USSR Ministry of the Chemical Industry have been answered, however. But this is injuring statewide interests.

As mentioned above, the technical and economic council, operating within the party obkom, is giving institute collectives effective assistance in the incorporation of research findings. It constantly monitors the state of affairs and helps to find and pave the way for the quicker incorporation of the results of applied research. Unfortunately, the result still depends too often on subjective factors, such as the desire or reluctance of a particular administrator to incorporate a new and indisputably progressive technological process. There is no question that the implementation of the decree of the CPSU Central Committee and USSR Council of Ministers "On the Improvement of Planning and the Enhancement of the Economic Mechanism's Effect on Production Efficiency and the Quality of Work" will aid in the systematic incorporation of research findings and make this an inherent function of the economic mechanism.

At the 26th CPSU Congress, Comrade L. I. Brezhnev said: "The precise determination of the practical objectives requiring the maximum attention of scientists is primarily the job of central planning and economic agencies and the State Committee for Science and Technology. At the same time, science itself must constantly 'disturb the peace' by directing attention to areas in which stagnation and retardation have been noticed, and in which the present level of knowledge provides for quicker and more successful advancement." We are guided by this statement when we analyze the research plans of institutes, discourage projects of limited interest and concentrate forces in the most important areas.

We are striving for the comprehensive development of Siberian natural resources. We have accomplished a great deal. For example, the results of the productive work performed by institutes of physical geography, operating in close contact with one another, speak for themselves. We cannot ignore the fact, however, that within the near future we might face the danger of lagging behind in such leading fields as machine building, electrometallurgy and electrochemistry. This could occur because the Irkutsk academic center does not have a single physicochemical and technological institute or a single scientific establishment concerned directly with the need to augment labor productivity--the most essential condition of production intensification. Consequently, virtually no work is being done in these areas.

The Siberian Department of the USSR Academy of Sciences must support the development of the main branches of industry in the cis-Angara zone with the forces of fundamental science.

Important tasks lie ahead for Soviet academics in the work to carry out the plans for the economic and social development of the USSR, proposed by the 26th CPSU Congress for the 1980's. The experience we have accumulated in theoretical and applied research gives us the right to confidently say that the academics of the Irkutsk Scientific Center will make a fitting contribution to the accelerated development of Siberia's productive forces and the augmentation of its economic potential.

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## DEMOGRAPHY

### KIRGHIZ DEPUTY PREMIER ON SERVICES FOR MOTHERS

Frunze SOVETSKAYA KIRGIZIYA in Russian 24 Dec 81 p 3

[Article by Dzh. Tashibekova, deputy chairman of the Kirghiz SSR Council of Ministers: "Maternal Efforts Are Respected Among Us"]

[Text] Many paragraphs have been written about mothers, about their constant concerns and about the humaneness and inherent culture of women whose destiny and highest calling was to raise children, to be the soul of the family and keepers of home.

In reading the recently published "Memoirs" of Leonid Ilich Brezhnev, one unwittingly repeatedly rereads the paragraphs where he writes about his mother Nataliya Denisovna, who worked throughout her life, raised children, "fed them, did all the washing, nursed them during ailments, and, recalling this, I have forever accustomed myself to respect the difficult, endless and noble womanly efforts of a mother." These are precious and very important words for all of us.

From the first days of Soviet power respect for motherhood has acquired a legislative form in our country. Protection of motherhood consists of a whole system of state measures, which are being improved and expanded every five-year plan period.

Especially much has been done during the past 5-year period. Tremendous funds have been allocated for perfecting production and improving living conditions at enterprises where work is predominantly performed by women. Women's social status in society has also changed. There are currently no sectors of the national economy in which they do not participate.

The 26th congress has adopted an extensive program aimed at further raising the material and cultural level of the Soviet people. An important place in it is devoted to the protection of motherhood. Already this year the party and government have adopted decrees aimed at improving the material condition of families with children and the pension security of the population.

Our republic is a region for which these measures are of special significance. Currently there are nearly 2 million women living in Kirghiziya and among them there are almost 15,000 mothers-heroines. Women comprise 48 percent of the overall number of workers and employees.

The recently held eighth women's congress of Kirghiziya has once again clearly demonstrated the increasing role of women in economic and social life and how much is being done by the Leninist party to give them access to positive social activities and to increase the benefits that they enjoy in the motherland of mature socialism. This is well evident in the example of Kirghiziya where production conditions and cultural and personal services for working women have significantly changed for the better in recent years. During the final 2 years of the 10th Five-Year Plan alone more than R128 million have been spent for this purpose. Nearly 2,500 enterprises, shops and sections have been reconstructed, labor protection rooms have been equipped, industrial and sanitation laboratories have been established and nearly 14,000 women have been transferred from harmful work. Labor has been mechanized and made easier at many sections where they are employed. Work and living conditions have been improved.

Women's labor activities are being raised in every way possible. Executive committees, ministries and departments are striving to provide them time to spend on the care and upbringing of children and this is assumed by the state itself. During the past 2 years the network of preschool institutions has been considerably expanded and the number of children attending them has increased by 11,000. More schoolchildren are studying in extended day groups and boarding schools. The expanding use of home labor will play its role in accustoming women to social labor.

Extensive work has been conducted to improve health protection of women and children. A total of 136 women's and 190 children's consultation clinics and polyclinics provide medical aid to them. New health improvement institutions have been commissioned in Frunze City and other cities and villages in the republic.

Special concern is manifested for mothers with many children, mothers-heroines. Social security organs in the republic currently have records of more than 100,000 mothers with many children who receive state benefits. More than R80 million are also paid annually to badly-off families. Recently the Communist Party Central Committee of Kirghiziya and the Kirghiz SSR Council of Ministers adopted a decree which provides additional measures for improving the material condition of families.

One of the most acute problems so far is still the problem of ensuring mothers with many children with well-planned housing. This is a result of unsatisfactory work of construction workers. During the 1976-80 period alone they failed to assimilate R170 million in construction of social and cultural projects. As a result, more than 500,000 m<sup>3</sup> of living space, many schools, children's preschool institutions, technical and vocational schools and hundreds of km of water supply, sewage, gas and heat supply networks have not been commissioned. The fixed construction time periods have not been kept. As a result, the need, for example, for children's preschool institutions in the republic remains almost unreduced and currently there is a shortage of nearly 40,000 places. Many mothers-heroines, especially those in the rural areas, want to live in individual houses. But local soviets do not always provide them loans for construction and expansion of houses and do not assist them with construction materials.

Far from everything has been done to improve work conditions and cultural and personal services for women with many children and mother-heroines and to protect motherhood and childhood. During the 1979-80 period the Kirghiz SSR ministries and departments and enterprises under union jurisdiction have failed to fulfill all measures aimed at improving conditions for women in production.



By the beginning of this year nearly 30,000 women were employed in work with unfavorable work conditions. Factors such as noise, vibration, dust and gas pollution, deviation from temperature regulations and failure to provide sufficient public and domestic sanitation and hygiene facilities have a negative effect on women's health. The situation is particularly unfavorable in construction and agricultural production.

Organization of benefit payments to families with many children leaves much to be desired. In some rayons rural and village executive committees of soviets of people's deputies have been tardy in authorizing benefits and awards of orders and medals to mothers with many children and as result many of them lose their right to the privileges. In some places numerous errors are permitted that result in overpayment or underpayment of money. Leave provisions to care for sick children up to 1 year of age and for pregnancy and childbirth have been violated.

Executive committees of many local soviets of people's deputies and farm supervisors have been devoting insufficient attention to questions of prompt medical service to mothers-heroines and to proper organization of children's nutrition. More than 1,000 mothers-heroines require constant medical observation. It is also necessary to improve services to children and their feeding. An important role in this is assigned to children's milk kitchens but their number has shown no practical increase during the years of the 10th Five-Year Plan. The kitchens are currently ensuring no more than 40 percent of milk mixture requirements. Delivery to the republic of needed quantities of some children's products, particularly of "Malyutka" and "Malysh" mixtures has not been properly set up.

As you can see there are still many problems. To overcome them successfully ministries, departments and executive committees of local soviets must work out measures up to 1985 aimed at further improving protection of motherhood and childhood and of production, cultural and domestic conditions for mothers-heroines and women with many children. It is necessary to step up control over sanitation and hygiene conditions at work places, to broadly introduce home labor and the use of women in part time work and to organize preferential rest for them and their families in the republic's health resorts.

It is necessary to improve construction of residential housing and of social and cultural and municipal and everyday service facilities and to adopt measures aimed at staffing priority construction projects with manpower and ensuring them material and technical resources. Within the briefest possible period it is necessary to solve the question of providing mothers-heroines the right to preferentially secure living space and to acquire materials for construction and repair of individual houses as well as to obtain loans for these purposes.

There is still another important problem. It is elimination of shortcomings in the work of milk kitchens and public dining and trade facilities and in organization of children's nutrition at home and in preschool and medical institutions and school dining rooms. This year it is already necessary to clinically register all mothers-heroines and to improve medical services for them. It is important to solve the question of ensuring mothers with many children with foodstuffs and manufactured goods, including the sale to them of passenger cars, rugs and rug goods. I think that public service enterprises should show more concern for mothers-heroines.

Party and soviet organs must devote constant attention to the needs and requests of mothers-heroines and working women and within the limit of rights granted to them by legislation in force implement additional measures to further improve their material and living conditions. No country can compare with us in the extent of social benefits for mothers, especially for mothers with many children, and in organization of medical services for women and children. Therefore it is very important that their status in society be improved every year. This is demanded by humanism of our system and by the decisions of the 26th party congress.

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## DEMOGRAPHY

### DEMOGRAPHIC ANALYSIS PROCEDURES ILLUSTRATED

Moscow VESTNIK STATISTIKI in Russian No 11, Nov 81 pp 34-42

[Article by Andrey Gavrilovich Volkov, candidate of economic sciences and head of the demography department of the Scientific Research Institute of the USSR Central Statistical Administration: "The Measurement and Analysis of Demographic Processes. Generational Peculiarities"<sup>1</sup>]

[Text] Population reproduction represents the continuous replacement of one generation by another: Some age and depart this life and they are replaced by others. The study of population reproduction and its constituent birth and mortality processes requires knowledge of how these processes take place during the lifetime of an entire generation and how each subsequent generation differs from the last.

If we were to observe demographic events year by year within a specific generation (among those born in a specific year), however, we would require less time to obtain data on all age groups. The determination of the mortality rate of an entire generation, for example, would take almost 100 years, until no person of this generation were left alive. During this time living conditions, which have a significant effect on the mortality rate, would change dramatically, and it would be difficult to determine their influence. And even from the practical standpoint, data on the mortality rate of the distant past would not be of much value. And although the child-bearing period of a woman's life is shorter (around 35 years), even this is long enough for considerable changes in the conditions determining the birth rate.

For this reason, indicators of a so-called hypothetical generation are widely used in demographic analysis. Birth rate age coefficients are an example of this kind of indicator (see Column 2 in the table). They can be calculated for the year or averaged out over 2 years because there are always women of various ages within the population who give birth to children in a specific year. These women were born in different years but the age coefficients derived can be regarded<sup>2</sup> as indicators of the birth rate throughout the entire lifetime of a particular, although hypothetical, generation, supposedly living (only from the ages of 15 to 50, as far as birth rate calculations are concerned) in a particular place and at a particular time.

The advantage of indicators of the hypothetical generation is that they provide some idea of the demographic processes of an entire generation, during all stages of its lifetime, and also reflect current conditions. This is the reason for the extensive use of these indicators in demographic analysis.

**The Demographic Features of a Generation:** The study of tendencies in a particular demographic process requires the kind of indicator that not only measures the change in the intensity of the process as people age, reflected by age coefficients, but also pertains to the generation as a whole. The overall or special coefficient, derived as the average of age coefficients, is not completely suitable for this purpose. It depends, as has been illustrated,<sup>3</sup> on the correlation of age groups, and this depends on past births and deaths.

In connection with this, cumulative coefficients are used. Let us look at the table, at Column 3, in which each number was derived by multiplying the average birth rate age coefficient for a 5-year age group by five and signifies the number of children born within this age group to 1,000 women of this age in a particular calendar year. For example, in the 20-25 age group (from the 20th birthday to the 25th birthday),<sup>4</sup> each 1,000 women of these ages in 1975 gave birth to an average of 170 children a year. In 5 years the women of this age group would give birth to 850 children, the women of the 25-30 age group would give birth to 680 children per 1,000 women, etc. If these women are considered to belong to the same generation (although they were actually born in different years and belong to different generations), the sum of these numbers (shown in the last lines of columns 3 and 4 in the table) indicates the total number of children born to this 1,000 women during all their child-bearing years, from 15 to 50. It is 2,270, or 2.27 per woman. This is called the summary birth rate coefficient. It can be interpreted as the number of children the average woman would have if she survived the entire reproductive period and if the frequency of childbirth in each age group were to remain the same as during the year for which the indicator was calculated. This is the birth rate indicator for the entire generation, a collective reflection of age characteristics. In contrast to the special coefficient, it does not depend on the age composition of women.<sup>5</sup> This is why it is more suitable for use in comparisons than the special (non-standard) birth rate coefficient, not to mention the overall coefficient. When the mortality rate is measured, a similar indicator is used--the average length of the remaining lifetime (or, more precisely, the projected lifespan of newborns).

When the summary birth rate coefficient is calculated, all live births are included. But a more precise assessment of the degree of generational renewal would require knowledge of the number of girls born, who might later become mothers themselves. The percentage of girls among newborns does not change with time and depends little on the age of the mother. The proportion is equivalent to 0.483. We must multiply the summary birth rate coefficient by this number:

$$B = 0.483 \times 2.270 = 1.096$$

The derived indicator (B) is called the rough coefficient (or the gross coefficient) of population reproduction. This is the number of girls born to the average woman of the generation from the time she is 15 until the time she is 50 if the corresponding birth rate coefficient in each age group and percentage of girls among newborns remain constant.

The gross reproduction coefficient, however, indicates only one side of generational renewal--the birth rate. When it is calculated, the assumption is that each age group will continue to consist of the same number of women--1,000. In reality, some of the women die each year and do not survive to the next age or to the end of the reproductive period.



Features of Birth and Mortality Rates of Women  
in Hypothetical Generation of 1975  
(hypothetical data)

1	2	3	4	5	6
15-20	32	160	160	960	154
20-25	170	850	1,010	956	813
25-30	136	680	1,690	952	647
30-35	71	355	2,045	947	336
35-40	34	170	2,215	939	160
40-45	10	50	2,265	928	46
45-50	1	5	2,270	912	5
15-50	71.3	2,270			2,161

Key:

1. Female age groups (precise age intervals)
2. Age coefficients of birth rate (number of births per 1,000 women of the given age)
3. Relative number of births per 1,000 women in 5-year age groups (columns 2 x 5)
4. Cumulative relative number of births by end of age interval
5. Number of years lived by 1,000 women on the average for each year of age group (from mortality tables)
6. Number of births per 1,000 woman-years lived by women in the age group (col 3 x col 5 : 1,000)

This can be taken into account if each birth rate indicator for the given age is multiplied by a certain quantity indicating the reduction of the generation as women pass from one age to the next. Usually the quantity used is the number living, or the average number of woman-years survived from the beginning to the end of the age group. They are presented in Column 5 of the table and essentially represent the age characteristics of female mortality, generally used in specially compiled mortality tables.<sup>6</sup> But they are calculated on the basis of simple female mortality age coefficients for the given year, derived in a similar manner as the birth rate age coefficients. Therefore, they also indicate the mortality rate of the hypothetical generation.

When we have completed this multiplication (160 x 960):1,000 = 154; (850 x 956):1,000 = 813, etc.,<sup>7</sup> we derive the number of births not per 1,000 women of each age, but per 1,000 woman-years survived in each age group. All that remains to be done is to add up these numbers for the entire reproductive period and multiply the result by the proportion of girls among newborns, which is once again considered to be constant and equal for all ages.

$$R = 2,161 \times 0.483 = 1,044, \text{ or } 1.044 \text{ per woman.}$$

This indicator is called the net reproduction coefficient of the female generation. It can be interpreted as the average number of girls one woman might give birth to during her entire lifetime if the present birth and mortality rates remain constant. This is a collective indication of the present level of population reproduction in

general, not affected by the temporary peculiarities of the age composition of the population. It depends only on the birth and mortality rates for each age at the present time.

The statement that this indicator measures future population growth can be encountered quite frequently, even in specialized literature. If it is less than 1, the population will supposedly not be reproduced because the daughter generation will not completely replace the maternal generation. In view of the fact that simple generational renewal requires that girls survive to the age of their mothers at the time of their birth (to approximately 28 on the average), the size of the population will supposedly begin to decrease within 28-30 years.

This interpretation is incorrect. The net reproduction coefficient does not indicate immediate prospects for population growth, but represents a unique indication of current reproduction patterns. This indicator does not measure the degree of generational renewal in the real population, the age structure of which has been influenced by past processes, but in a theoretical, stable population, the age structure of which would correspond to the given reproduction patterns. If the current birth and mortality rates for each age would remain constant for a long enough period, for at least 100-150 years, the population would stabilize, or, in other words, would acquire an age structure corresponding to the reproductive characteristics. If they were to remain constant, the number of women of child-bearing age would increase with each generation (or each 28 years) to the degree indicated by the net reproduction coefficient.<sup>8</sup> Therefore, it indicates the possible degree of generational renewal not after 30 years, but after a century or a century and a half, and on the condition that the birth and mortality rates remain unchanged throughout this period. The immediate prospects for population growth, on the other hand, depend on the real age structure, or the number of children who are born to today's mothers and fathers and who will become mothers and fathers themselves in the future. They also depend on the real ratio of men to women in each age group and on the number of these who will marry and raise families. We could say that past generations have created something like a parental "reserve," which is now guaranteeing population growth in spite of the relatively low birth rate. This is the explanation for the seemingly paradoxical fact that natural population growth can remain positive even in locations where the net reproduction coefficient is less than 1.

When this indicator is interpreted, it is also necessary to consider the possible influence of migration, which mainly affects the young and able-bodied age groups. In view of the fact that the birth rate of migrants is generally lower than that of the permanent population, new arrivals reduce the net population reproduction coefficient. Departures should increase it, but they often change the structure of the population in terms of gender and marital status, and this ultimately also lowers the birth rate.

Therefore, the net coefficient is the indicator of the present level of reproduction. A low coefficient, especially in some regions and in large cities, is a kind of warning of the future consequences of current reproductive behavior. But this matter deserves special discussion.

Indicators for the Real Generation: We have examined three collective indicators for the hypothetical generation--the summary birth rate coefficient and the gross

and net reproduction coefficients--and have discussed their features and purpose in brief. The chief merit of these indicators is their overall assessment of the level of reproduction, and one that does not depend on the age structure of the population.

But these indicators also have their shortcomings. The main one is that the hypothetical generation is made up of people belonging to different generations and going through different stages of life. If each generation had birth and mortality rates of the same intensity and if the rates for all generations would change equally with age, there would be no difference between the characteristics of the hypothetical and real generations. But this is not the case. The natural tendencies toward a change in the intensity of each specific demographic process as people age, the tendencies established for the given period, do not remain constant. This is why changes in the intensity of a process cannot be judged from the characteristics of the hypothetical generation; in other words, it would be wrong to apply them to a dynamic entity.

Let us take a look at a demographic grid (Figure 1).<sup>9</sup> It reflects the first 10 years of marriage: The line of married life begins on the lowest horizontal--the lifeline of the married group, or the group of people who entered into marriages during the same calendar year. The numbers in the squares signify the number of births during 1 year of marriage per 1,000 married women who have been married for the given number of years. The diagonal belt indicates a number of marital birth rate coefficients by years of marriage for one of the groups, the people who got married in 1963, and the vertical belt indicates the same coefficients, but for the hypothetical generation according to data for 1973. We can see that each number in the vertical belt indicates the birth rate not only during various years of marriage, but also in various groups. For example, 174 is the proportional number of births during the fourth year of marriage in 1973 for women who got married in 1968 and 1969, and so forth.

Each number in the vertical belt is lower than the corresponding number in the diagonal belt, which is due to the gradual decline in the marital birth rate since 1973. The cumulative coefficient of the marital birth rate by the 10th year of marriage is  $\Sigma fy = 1961$  per 1,000 in the real generation, but in the hypothetical one it is  $\Sigma fy = 1786$  per 1,000, or a much lower figure. Of course, they could only coincide if the frequency of births by marriage years did not change from one generation to another. In fact, during the years separating the hypothetical generation from the real one, the marital birth rate declined, and to varying degrees during different years of marriage: less during the first years and more quickly by the 10th year. What is more, each indicator of the hypothetical generation depends on the past demographic history of real generations, and this, in turn, determines the future change in these coefficients. For this reason, the indicators of the hypothetical generation must be supplemented with the features of real generations when the birth rate and other demographic processes are analyzed, and particularly in forecasts. The features of real generations are usually obtained from the data of special sample surveys.

In contrast to the indicators of the hypothetical generation, the data on real generations usually do not cover the entire lifespan of the generation, but stop at the age attained by the generation at the time of the census or survey. As a result, the indicators calculated for the real generation are usually of a different

type, namely cumulative quantities, such as, for example, the number of children born to women of a particular age in the given generation, the percentage of persons from this generation marrying at a certain age, etc. These indicators apply specifically to individual demographic processes and will be examined in coming articles.

It should be added that the data required for the calculation of indicators of the real generation can be obtained from current birth, death, marriage and divorce statistics if they are grouped according to the year of birth rather than age (this system of classification is used in statistical information about natural population mobility patterns). In many cases they can also be obtained by converting data on 1-year age groups into birth year statistics (Figure 2).

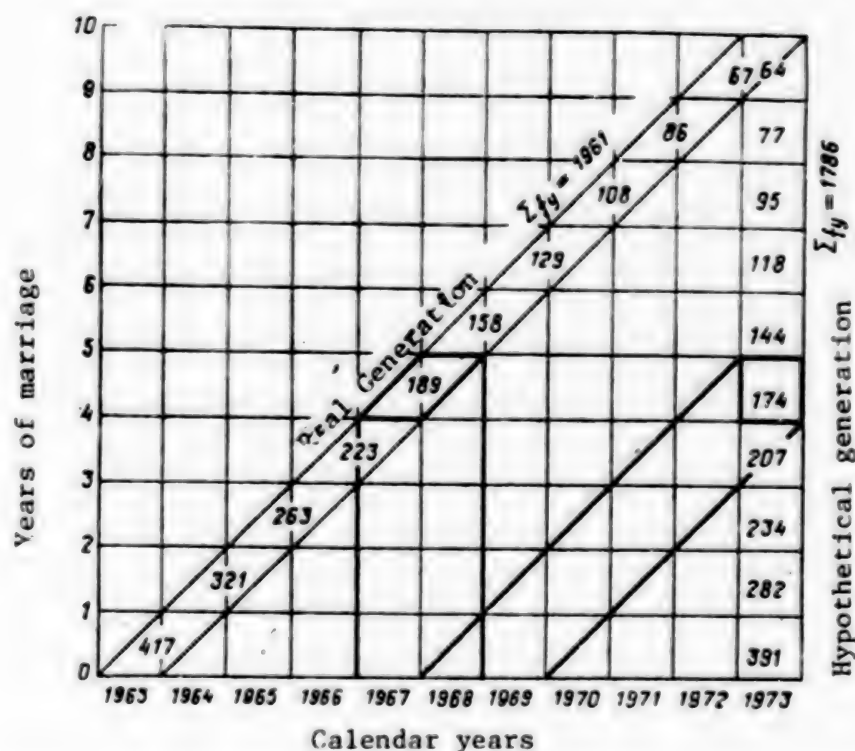


Figure 1. Marital birth rate of real and hypothetical married groups

The numbers of demographic events derived from current statistics for calendar year  $t$  are shown in squares  $GBGQ$  in the demographic grid. The data for the generation born in year  $(t-x-1)$ , on the other hand, are shown in parallelograms  $AGBQ$ . We can see that the number of events at age  $x$  consists of the numbers of events in triangle  $AGB$  plus (for the calendar year) triangle  $ABG$  or (for the birth year) triangle  $AGQ$ . The latter is related to data for year  $t-1$ . If we assume that demographic events are distributed uniformly in each square, the number of events in generation  $t-x-1$ , taking place at age  $x$ , can be calculated as the average of squares  $AGQA$  and  $AGBQ$  according to the results of current statistics for 2 years (on the condition, of course, that there were no radical differences between the



two generations in the number of births or migrants). The age coefficients for the given generation can be calculated if we have data on the number of persons of the given age at the beginning of year  $t$  (line  $\delta A$  in Figure 2).

Usually, however, these data are obtained from sample surveys conducted by the so-called anamnestic method, by determining the number of events taking place in the life of respondents and the ages at which they took place. These surveys, along with censuses and current statistics, represent an important element of the system of information about the population and demographic processes.

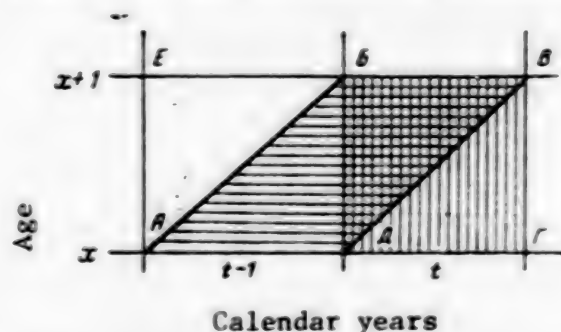


Figure 2. Diagram of Extrapolation from Hypothetical to Real Generation

A complete analysis of the dynamics and factors of demographic processes presupposes, therefore, the calculation of not one indicator or a few, but several indicators, on the basis of the appropriate data of population censuses, current statistics and sample surveys.

**Assessing the Validity of Demographic Indicators:** The results of the observation or measurement of any quantities, including demographic data, usually indicate only the approximate values of these quantities, but in the majority of cases these are sufficient for practical purposes. For example, age is usually measured with an accuracy of up to 1 year, and the error resulting from this approximation is considered to be negligible. Although the population of oblasts, cities and so forth is measured to the nearest individual, the figures are generally expressed in thousands. A high degree of accuracy is not even needed here because the actual number will change considerably by the time the results of the survey or count become known. Of course, this does not mean that we can be careless when we conduct statistical surveys. Given the mass nature of the object of study, many people are involved in statistical surveys, and if each one commits an error of only one unit, the total error could amount to tens of thousands on the scale of the republic or nation as a whole. This is why special procedures and controls are used in demographic surveys to guarantee a complete record.

But the goal of any statistical survey consists in determining the natural tendencies of the particular phenomenon. As we know from statistical theory, however, tendencies are only revealed on the mass scale, in a large enough survey group. If conclusions are based on a small group, the result could be affected by random factors, and the results of a follow-up survey might be different.

For this reason, in addition to accuracy, it is just as important to have some idea of the validity of results, or, in other words, the degree to which they correspond

to the facts. In view of the fact that the actual value of a given quantity can also be derived only as a result of measurement, the average value of the results of repeated measurements of the given quantity is considered to be theoretically valid. The results of each specific survey can be regarded as a sample of the total group, which could consist of many observations of the same phenomenon under the same conditions. In this case, as we know from theory, the mean error can be used to gauge the validity of an indicator. The advantage of this approach is that validity can be assessed without the need to measure the same object numerous times. The assessment can be made on the basis of the single "sample group" which is available. This approach can be used to judge the validity of demographic indicators and to compare them. This is particularly advisable when the indicators of small territories (rayons or cities, for example) are analyzed.

The conventional formula of the mean relative error, which is precise enough for practical purposes, can be used to judge the validity of demographic coefficients in this manner.

$$\mu = \sqrt{\frac{pq}{n}}.$$

Where  $p$  signifies the coefficient whose validity is being assessed;

$q = 1-p$  if the coefficient is expressed in parts of a unit, or

$q = 1,000-p$  if the coefficient is expressed in thousandths;

$n$  signifies the size of group for which the coefficient has been calculated.

Let us assume, for example, that 650 children were born during the year in the rayon and 12 children under the age of 1 year died. The coefficient of infant mortality<sup>10</sup> will then be equivalent to:

$$m'_0 = \frac{12}{650} \times 1000 = 18.46\text{‰}.$$

And the mean error will be:

$$\begin{aligned} \mu_{m'_0} &= \sqrt{\frac{18.46 \times (1000 - 18.46)}{650}} = \sqrt{\frac{18.46 \times 981.54}{650}} \\ &= \sqrt{27.876} \approx \pm 5.28\text{‰} \end{aligned}$$

The mean error is expressed in the same units as the coefficient. The error derived signifies that if we regard the given value of the coefficient as the true value (that is, if we assume that it agrees with the average of the large group of values we might derive from repeated measurements under the same conditions), our average error in the given number of observations will be 5.28 per thousand.

According to theory, the probability that the derived results will differ from the actual result by no more than  $\pm 2\mu$  is equivalent to 95 percent. This means that during numerous follow-up surveys, the actual coefficient of infant mortality would range from  $(m_0 + 2\mu)$  to  $(m_0 - 2\mu)$  in 95 out of each 100 cases; that is, it would range from 18.46 per thousand  $\pm 2 \times 5.28$  per thousand = 18.46 per thousand  $\pm 10.56$  per thousand, or from 7.90 per thousand to 29.02 per thousand.

This procedure is extremely important in the comparison of indicators. As we know, the mean error of the diversity of two indicators is equivalent to the square root of the squares of the mean errors of both:

$$\mu_{1-2} = \sqrt{\mu_1^2 + \mu_2^2}.$$

If the diversity of indicators is more than three times as great as the error of diversity, we can assume that it is not random. If the diversity is less than 3 $\mu$ , on the other hand, it is quite probable that it is the result of random factors.

Let us assume that 700 children were born the next year in the same rayon and 15 children died before their first birthday. The coefficient of infant mortality will be:

$$m_0'' = \frac{15}{700} \times 1000 = 21,43\text{‰}.$$

The question arises: Was there actually a rise in the infant mortality rate or is the difference between the indicators for the 2 years a result of random factors? We will use the mean error of diversity.

The mean error for the second year is:

$$\mu_{m_0''} = \sqrt{\frac{21,4 \times (1000 - 21,43)}{700}} = \sqrt{\frac{21,43 \times 978,57}{700}} = 5,47\text{‰}.$$

And the mean error of diversity in the two indicators is:

$$\begin{aligned} \mu_{m_0' - m_0''} &= \sqrt{5,28^2 + 5,47^2} = \sqrt{27,8784 + 29,9209} = \\ &= \sqrt{57,7993} \approx \pm 7,60\text{‰}. \end{aligned}$$

We can see that the difference between the coefficients (20.32 - 18.46 = 1.85 per thousand) is not greater than the mean error, but much smaller. This means that there is no reason to regard this as a significant difference. It is fully likely to be a coincidence. In other words, there is no reason to say that the rate of infant mortality in the rayon has risen. The number of observations is too low to provide sufficient grounds for this conclusion.

This procedure can also be used in the comparison of other similar demographic indicators.

#### FOOTNOTES

1. Continuation of a series of articles on population statistics (see VESTNIK STATISTIKI, 1980, Nos 4, 7, 11; 1981, No 6).
2. With some stipulations, which will be discussed further on.
3. VESTNIK STATISTIKI, 1980, No 11.
4. If it is the actual age that is measured, this group would be called the 20-24 age group, and so forth.

5. Strictly speaking, to completely remove the influence of the age composition, it is necessary to total up coefficients for each year because the correlation between individual ages can also change within the bounds of 5-year age groups under the influence of past fluctuations in the birth rate. In most cases, however, sufficiently accurate results can be obtained from adding up (and multiplying by five) coefficients for 5-year groups.
6. Methods of compiling mortality rate tables will be discussed in a later article.
7. The result of the multiplication must be divided by 1,000 because this measures the years lived by each of the 1,000 women whose children are indicated in Column 3.
8. The annual coefficient of population increase would then be  $k = (\ln R)/28 = (\ln 1.044)/28 = 0.00154$ , or 1.5 per thousand.
9. The principles of its construction are discussed in VESTNIK STATISTIKI (1980, No 11).
10. Here it is calculated according to a simplified formula.

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## DEMOGRAPHY

### EFFECT OF SPECIALIZATION ON POPULATION SETTLEMENT PATTERNS

Omsk ZEMLYA SIBIRSKAYA, DAL'NEVOSTOCHNAYA in Russian No 4, Apr 81 pp 34-35

[Article by S. K. Bessonov, candidate of economic sciences and deputy director of the Siberian Scientific Research Institute of the Economics of Agriculture, and Ya. I. Cherkasskiy, candidate of economic sciences and head of the Department of Labor Resources and Socioeconomic Problems in the Development of Agriculture: "Specialization and Rural Settlement Patterns"]

[Text] In the article "A Cure for Migration" (No 5, 1980), Director I. I. Leunov of the Order of Lenin Berdskiy Sovkhoz pointedly disputes, with convincing arguments, the conclusions of N. N. Mikhaylov and V. D. Dorofeyev ("The Optimal Variant," No 10, 1979 and "The Best Variant," No 11, 1979), amplifying the basic premises he set forth earlier ("The Promise of 'Unpromising' Rural Communities and Irrigation," No 3, 1979). The more thorough specialization and concentration of production and changes in production distribution patterns on the grounds of agricultural enterprises will have a significant effect on the objectively determined system of rural settlement patterns. This will solve the interrelated problems connected with the maximum development of production units ensuring full employment for the current population and the establishment of the necessary working and living conditions for rural inhabitants.

The consistent development of the specialization and concentration of agricultural production by means of interfarm cooperation and agroindustrial integration is accelerating the process by which significant differences between urban and rural communities are being eradicated. The equalization of labor conditions due to agriculture's transfer to an industrial basis will make social, cultural and consumer objectives even more urgent.

Obviously, we cannot agree with I. I. Leunov's statement that agrarian economists are confusing two terms: the specialization of production and the specialization of the rural community. When production specialization is examined in isolation from labor resources and vocational skills, the elementary requirements of this specialization are not taken into account. This is not a matter of contradictory terms, but of different bases of specialization. As a matter of top priority the "Basic Directions for the Economic and Social Development of the USSR During 1981-1985 and During the Period up to 1990" stipulate: "Rural construction must be stepped up for the erection of comfortable residences with modern conveniences and out-buildings for the maintenance of livestock and poultry, pre-school

establishments, clubs and other cultural and consumer facilities. There will be a 39-percent increase in capital investments for this purpose. More rural populated points will be equipped with centralized heat, gas and water supplies and sewage systems. More paved roads will be laid between farms."

The question naturally arises, If this construction will not be conducted everywhere, then where? In which rural communities?

The problem of "promising" and "unpromising" rural communities is not contrived. This is a matter of such vital importance that the significant acceleration of agricultural production, the augmentation of agricultural output and the fuller and more economical use of material, financial and labor resources already depend on its correct handling. In the future, this will be a factor determining the equalization of urban and rural public well-being and of conditions for the thorough development of the individual. In this connection, the still hypothetical but quite quickly accepted practice of categorizing rural communities as "promising" and "unpromising" naturally became the subject of debates about the measurement of their development according to strictly substantiated features and criteria.

As I. I. Leunov quite correctly notes, the idea of this division came primarily from serious sociological studies and from the investigation of future alternative plans for the most efficient distribution of production units and their further specialization and concentration. As a result, more than a third of the rural communities in Siberia were already categorized as "unpromising" in terms of specific criteria a few years ago.

How valid were the criteria for this division and how have they withstood the test of time and practice? Here is what selective data from a survey in Novosibirskaya Oblast tell us, for example. It turns out that the planned and actual development of rural populated points coincided even approximately in only 33.8 percent of the communities; the actual potential for development had been underestimated in 42 percent and overestimated in 24.2 percent. Therefore, actively developing communities were often regarded as "unpromising," while gradually declining ones were called "promising" ("Razvitiye sel'skikh poseleniy" [The Development of Rural Communities], Moscow, Statistika, 1977, p 281).

In Siberia the average rural populated point in 1978 had a population of just over 400--comparable to rural communities in the Central Chernozem and Povolzh'ye economic regions. However, a populated point in the Central Chernozem region has around 1,200 hectares of farmland while the community in Siberia has more than three times as much. This means that populated points are separated by greater distances. Therefore, the term "large populated point" should probably be measured in different quantities in different economic regions. In our opinion, the distinctive features of Siberia will require the adjustment and clarification of standards governing cultural and consumer services for the rural population so that the Siberians can be offered superior living conditions in comparison to conditions in regions with a labor surplus.

In the Siberian zones where all branches of agriculture are developing under the conditions of a considerable shortage of manpower, the reduction of the size of the rural population when "unpromising" communities are liquidated leads to an even more acute labor shortage. Experience has shown that haphazard migration begins

as soon as people learn that their community will be liquidated. Furthermore, two-thirds of the inhabitants do not move to "promising" rural settlements, but to rayon centers, cities and other oblasts.

In regions where the network of settlements is relatively sparse, the further reduction of its density will increase the distances between settlements, weaken ties between rural communities and ultimately diminish the overall stability and viability of the entire system of rural population patterns. The planned liquidation of some communities frequently results in the self-liquidation of others--and these are communities that have been called "promising." Given the poor condition of roads between farms, the concentration of the entire population within large settlements isolates workers from their place of employment, complicates their travel to the fields and farms and will eventually lower the effectiveness of all agricultural production.

The analysis of theoretical aspects of rural population patterns in Siberia is not being given enough attention. For this reason, I. I. Leunov is correct in his opinion that if just the existing recommendations of scientific and project planning organizations are taken as a guide, all of the peripheral "unpromising" settlements should lose most of their population to "promising" ones within the near future. And what will happen then? The number of communities could decrease by more than 30 percent while the workload of production areas in each remaining community will increase by almost the same amount. Given the poorly developed network of roads, the maintenance of these facilities will be a complex matter.

In terms of economic content, the specialization and concentration of agricultural production and its transfer to an industrial basis signify the kind of intensification of social division of labor that will not only considerably augment the volumes of agricultural production and heighten its effectiveness, but will also improve working and living conditions, alleviate the traditional shortage of manpower, increase the vocational skills of workers and make agricultural labor more appealing and prestigious.

There is no question that settlement patterns should correspond to the scientifically sound distribution, specialization and concentration of production units. A question could arise in this connection: Will specialization in the future necessitate radical, revolutionary changes in settlement patterns? The answer is unequivocal: No, it will not. Grounds for this answer can be found in the forecasts of agricultural development for 1990 and 2000, which indicate that distribution and specialization already correspond almost completely to the natural and economic conditions of various zones in Siberia. All that will be needed in the future is clarification in the distribution, specialization and degree of concentration of specific types of production.

This clarification, particularly of farm and intrafarm specialization, and the determination of the efficient degree of concentration must be accompanied by the calculation of their effect on the size and composition of the population, the professional skills of manpower and the prospects for the fuller and more efficient use of all existing labor resources.

In recent years great changes have taken place in agriculture in Siberia, just as in the rest of the nation, and the level of production mechanization and



specialization has risen as a result of the action taken to implement the economic organizational plans adopted by the March (1965) CPSU Central Committee Plenum and subsequent party and governmental decisions. Each year the dimensions of interfarm cooperation grow. The use of industrial production technology, the rising wages and the construction of more housing and utilities are bringing about colossal social changes. One indication is the reduced migration of the rural population. For the first time in many years, there was no negative migration balance in most of the rayons of Novosibirskaya and Omskaya Oblasts in 1977-1979, which attests to major socioeconomic changes.

Many unsolved problems still exist, however. Unfortunately, there are cases of poorly planned specialization, which have led to perceptible economic losses and even the liquidation of rural communities. These economic losses consist of losses of productive assets, housing, cultural and consumer facilities, manpower and part of the production volume (primarily in the private farming sector).

On the Purysevskiy Sovkhoz in Altayskiy Kray, for example, the number of dairy cows decreased from 428 to 181 and the number sent out for fattening increased from 2,183 to 3,011. There was a corresponding decrease in the need for milkers and a slight rise in the demand for herdsman. What were the consequences of this? Milkers responded in different ways to these changes. Around 22 percent resigned and left the farm, 20 percent transferred to other, less prestigious jobs, and 27 percent became housewives because they did not want to change their occupation. As we can see, the social consequences of these changes certainly cannot be called favorable because outgoing migration compounds the existing manpower shortage.

There were six populated points on the Koyenskiy Sovkhoz in Novosibirskaya Oblast at the beginning of the 1960's. Almost 3,000 people lived there. Then Pokrovka and Petrovsk, where 700 people lived, were pronounced "unpromising." In 1966 the public production sector was liquidated in these populated points and by 1968 they ceased to exist. Only a third of the population of these settlements moved to other populated points on the sovkhoz, while the remaining two-thirds moved to the city of Iskitim or left the rayon. As a result, fairly sizeable quantities of productive assets, housing and cultural and consumer facilities ceased to function. The sovkhoz lost more than 100 workers, or almost one-fifth of the entire labor force. The herd of cattle owned by sovkhoz workers and employees was reduced by 210 head and the number of hogs decreased by 310, or almost 30 percent.

These examples corroborate, to some degree, I. I. Leunov's doubts about the absolute validity of the "best variant" recommended by N. N. Mikhaylov and V. D. Dorofeyev for the Zavety Il'icha Sovkhoz in Krasnoyarskiy Kray, because the social consequences and possible economic losses were left out of the proposed system of territorial organization and intrafarm specialization.

The further improvement of agriculture and, especially, interfarm cooperation and agroindustrial integration will give new momentum to the development of the overwhelming majority of rural populated points with the formation of a progressive vocational skills structure and demographic patterns in these populated points, with an increase in the number of prestigious jobs and with fuller employment. In this connection, economists and sociologists have an objective duty to construct



economically and socially efficient and promising models of rural communities with the aid of persons who actually work in this area and with the use of progressive experience and forecasts.

The unjustified, artificially accelerated liquidation of so-called "unpromising" rural communities in the next few years can only inhibit the development and effectiveness of agricultural production.

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## DEMOGRAPHY

### FACTORS AFFECTING FAMILY WELL-BEING EXPLAINED

Moscow EKONOMICHESKIYE NAUKI in Russian No 10, Oct 81 pp 47-56

[Article by K. Bazdyrev, candidate of economic sciences: "The Family in the System of Socialist Socioeconomic Relations"]

[Text] The founders of Marxism-Leninism thoroughly researched the socioeconomic bases of the family unit and family relations.

As a social phenomenon, the family is determined to a considerable extent by the economic base of society. "Take a specific developmental level of production, exchange and consumption and you will have a specific social order, a specific family structure, specific strata or classes--in short, a specific civilian society."<sup>1</sup> The development of family forms and family relations is also relatively independent, however, because the family, which is engendered during the process of the historical development of society, participates not only in the production of the means of existence but also in the reproduction of human life itself, the human race.

K. Marx and F. Engels analyzed the change in family forms and family relations in pre-capitalist structures and in the capitalist society and then, in the nature of a scientific forecast, set forth a number of hypotheses about the economic aspects of family relations in the socialist and communist society.

Moral and psychological attitudes within the socialist family have been examined at length in modern philosophical literature.<sup>2</sup> Problems in the regulation of the personal and property relations of spouses and other family members have been analyzed in legal studies of family law. In the economic sciences the family has been studied in a number of fields: demography, statistics, national economic planning and others. As yet, however, the family's place in the system of socioeconomic relations and its performance of household management and economic functions have not been researched sufficiently. This subject matter is extremely important, however, not only on the level of general theory but also from the standpoint of national economic practice, primarily in the compilation of balanced plans and the assignment of priority to the resolution of social problems in these plans. This means that the family should be the focus of studies in political economy.

The role of the family and demographic policy in the developed socialist society was defined at the 25th CPSU Congress. The 26th party congress discussed this

topic in more detail. In the accountability report to the 26th CPSU Congress, Comrade L. Brezhnev said: "In accordance with the directives of the 25th party congress the Central Committee gave serious attention to the need for an effective demographic policy and to the recently mounting problems in population settlement patterns. The principal way of solving them consists in heightened concern about the family, about newlyweds and, above all, about women."<sup>3</sup>

The socialist family differs from families in pre-socialist societies by its economic basis, the motives for marriage and the nature of relations within the family.

The collectivization of the means of production in the socialist and communist society creates a fundamentally new economic basis for the family: It is delivered forever from the humiliating domination and the pressure of greedy private interests on the family unit and on relations within the family. Now that women are participating in social production and have attained the same educational level as men, a particular type of family organization is taking shape, distinguished under socialism by the much more pronounced equality of spouses and cohesion of the family unit than in any other society. The socialist society presupposes marriages motivated by personal choice and not by economic considerations or parental coercion. The main social function of the socialist family is the satisfaction of the needs of men and women for the connubial state, fatherhood, motherhood and the rearing of children.

Even during the course of socialist reforms the family function of accumulating personal property begins to disappear and the household management function evolves more and more into merely a condition of family life, in which the chief priorities are moral factors, the birth and rearing of children. The nature of interrelations between the family, the society and the state also changes considerably. The family becomes more active and plays a more important role in all spheres of public life. Moral and legal standards in the socialist society are intended to strengthen the family unit and firmly establish the principles of socialist communal living.

Article 53 of the Constitution of the USSR states: "The family is under the protection of the state. Marriages must be based on the voluntary consent of women and men; the spouses are completely equal in family relations. The state displays concern for the family by establishing and developing a broad network of child care establishments, organizing and improving consumer and public dining services, paying maternity benefits, offering stipends and benefits to large families and giving families other types of grants and assistance."

In the system of socialist socioeconomic relations the family is the primary social nucleus because it guarantees the reproduction of society's main productive force, the human being, it participates in the distribution and consumption of national income through individual and public consumption funds and, in some cases, it participates in cooperative production within the private farming sector.

The increasingly complete satisfaction of the material and cultural needs of members of society is largely accomplished through the family, through the performance of its household management function. From this standpoint, the family should be the focus of studies in socialist political economy. It is from this vantage point that public well-being and the standard of living should be examined because they

are determined largely by the family and depend on its size and structure. The major elements here are the level of consumption of food and industrial commodities, the supply of housing and jobs, the conditions of labor, leisure and home life, the possibility of acquiring an education, medical assistance and social security and the conditions of free and comprehensive individual development. When personal needs are being researched for the purpose of scientifically sound recommendations on the priority of various needs, it is important to study the needs of the family member, and not some kind of "average person"; consequently, the sex and age structure of the family and the individual and collective (or family) needs of family members must be taken into account.

In the developed socialist society the law of rising demand manifests itself in full and qualitatively new conditions are created for its operation. They guarantee development according to plan and the satisfaction of the rising material and spiritual demands (individual and family) of society's members. The satisfaction of these demands necessitates not only the concentration of material resources and the augmentation of physical elements of production, but also the satisfaction of the most diverse individual interests of each person and each family and the consideration of their immediate needs and long-range goals.

Family well-being is enhanced by the following: 1) an increase in individual wages in line with the quantity and quality of labor, combined with lower retail prices and the abolition of personal income taxes; 2) the augmentation of public consumption funds, intended to satisfy the needs of society's members for free. It is obvious that the effect of these factors differs depending on the size of the family, its composition and, in particular, the ratio of workers to dependants.

When we examine the family's role in the reproduction of our main productive force, the human being, we must consider a number of aspects. Above all, the family produces and uses the vital necessities required to rear the younger generation, which will supplement the labor force and replace those who leave the social production sphere. The family participates in the training of qualified manpower by assuming, in addition to the material expenditures on the physical development of the young, most of the expense of education and the acquisition of a general or specialized academic background.

The number of families and their sex and age structure are of exceptional economic significance in the reproduction of manpower. According to the 1979 census there were 66.3 million families in the USSR. Some 29.7 percent consisted of two members, 28.9 percent consisted of three, 23 percent of four, and 18.4 percent of five or more. The average family (with all members living together) in the USSR consists of 3.5 members. This indicator varies considerably from one republic to another: 3.1 in Estonia and Latvia and 3.3 in the RSFSR, the Ukraine, Belorussia and Lithuania, but 5.5 in the Uzbek SSR and 5.7 in the Tajik SSR.<sup>4</sup> The standard of living of the family depends directly on the use of individual and public consumption funds.

The per capita consumption of foods with the greatest nutritional value--meat, milk, fruit, eggs and sugar--and mass consumer goods is increasing.<sup>5</sup>



<u>Products</u>	<u>1965</u>	<u>1979</u>
Meat, kilograms	41	58
Milk, kilograms	251	319
Eggs	124	233
Sugar, kilograms	34.2	42.8
Fruit and berries, kilograms	28	38
Fabric of all types, square meters	26.5	33.2
Footwear, pairs	2.4	3.2
Knitwear, items	4.2	6.5

The people in our country now have (per 100 families) 84 radios and phonographs, 83 television sets, 82 refrigerators, 64 sewing machines, 50 bicycles and motor-scooters, 26 electric vacuum cleaners and 70 washing machines.<sup>6</sup>

The output of the majority of durable goods in the nation has been increasing significantly only since the 1950's, and they only became widely available in the 1960's (radios, television sets, refrigerators and washing machines, which were not even produced before 1928). It is important to plan the production and sale of these goods with a view to the number of families in the nation. This is also extremely important in the planning of residential and consumer construction. Only this approach can guarantee the consistent attainment of the goals of socialist production and it must be reflected more widely in the special programs of five-year plans.

The move to the new work schedule in the Eighth Five-Year Plan, the 5-day week with 2 days off, improved conditions for family recreation and provided more time for the education of children in the home. Consistent steps have been taken to increase family income and improve living conditions. In addition to general measures for the enhancement of well-being, particularly wage and pension increases, measures specifically aimed at the family have also been taken. For example, during the Ninth Five-Year Plan the system of pensions for families which had lost their breadwinner was improved. Additional benefits were established for families of deceased servicemen. Women were given more days off with pay to care for sick children. Low-income families received financial benefits for children. As a result of the entire group of measures, 38 percent of the population already had an income of more than 100 rubles a month per family member in 1979, whereas only 4 percent had this in 1965.<sup>7</sup> During the 10th Five-Year Plan measures continued to be taken to improve the situation of families.

The data of regular sample studies of the budgets of 62,000 families clearly indicate a change in the structure of their total income and expenditures. According to these data, the proportion accounted for by wages in the worker's family income rose slightly, from 71.3 percent in 1940 to 74.3 percent in 1979. The same rise was seen in the kolkhoz income of kolkhoz families: from 39.7 percent in 1940 to 43.4 percent in 1979. Besides this, the wages of members of kolkhoz families represented 5.8 percent of total family income in 1940 and 8.8 percent in 1979. There was a considerable increase in income from pensions, stipends, grants and other payments and benefits from public consumption funds (including free education, medical care, etc.): For the families of workers in industry this income represented 14.5 percent of their total income in 1940 and 23.1 percent in 1979, while

the respective figures for kolkhoz families were 4.9 percent and 19.3 percent. Income from private subsidiary farming decreased significantly during the same period: from 9.2 to 0.8 percent of the income of workers' families and from 48.3 to 26.9 percent of the income of kolkhoz families.

Important changes also took place in the expenditure patterns of families of workers in industry and kolkhoz members. According to these data, there has been a clear decrease in the percentage of income spent on food and a considerable increase in the percentage spent on fabric, clothing and footwear, furniture and cultural and consumer goods and a slighter increase in the percentage spent on cultural and consumer services (see Table 1).

Table 1

Family Expenditure Patterns, %\*

<u>Expenditures</u>	<u>Workers' families</u>			<u>Kolkhoz families</u>		
	<u>1940</u>	<u>1965</u>	<u>1979</u>	<u>1940</u>	<u>1965</u>	<u>1979</u>
On food	53.8	37.9	31.8	67.3	45.2	35.7
On the acquisition of:						
Fabric, clothing and footwear	11.1	13.9	15.7	10.9	13.7	15.6
Furniture and cultural and consumer goods (including bikes, motorcycles, etc.)	1.7	6.1	6.6	1.1	4.2	6.2
Fuel	1.2	0.4	0.1	3.8	3.2	1.6
On sociocultural and consumer services	17.6	24.3	23.6	4.8	14.0	14.5
Breakdown:						
Education, medical care and other free services financed by public consumption funds	9.0	13.8	14.2	3.4	10.0	10.2
Payment for housing, utilities and residential maintenance	2.9	2.7	2.7			
Accumulation (cash increment, savings deposits, etc.)	4.7	2.8	6.6	6.3	8.0	8.9
Taxes	4.1	7.2	8.7	1.4	1.4	1.4
Other expenses	5.8	7.0	6.6	4.1	8.9	14.0

\* "Narodnoye khozyaystvo SSSR v 1979 g.," pp 410, 411.

The family and the role it plays cannot be examined without a review of demographic indicators, especially the birth rate. There has been an obvious tendency toward a lower birth rate in the nation and the subsequent stabilization of this indicator (whereas in 1940 the number of births per 1,000 inhabitants was 31.2, the figure was 26.7 in 1950, 24.9 in 1960, 17.4 in 1970 and 18.2 in 1980).<sup>9</sup> It is significant that the birth rate is far from uniform in all regions.

Demographic policy should stimulate a definite rise in the birth rate, which would guarantee the quicker expanded reproduction of the population. This is of

indisputable importance in most parts of our country. When these topics are discussed in the press, more attention should be given to the reinforcement of the family unit and the development of the proper moral views on motherhood and fatherhood. As yet, however, economic measures to promote an increase in the number of families with three or four children have not been analyzed thoroughly or comprehensively enough. It is precisely in the planning of the economic measures of demographic policy that a comprehensive approach is particularly necessary.

Up to the present, mothers with two children have received a one-time grant from the state upon the birth of their third child and each subsequent child, and women with three children have received a monthly stipend upon the birth of their fourth and subsequent children. In all, 3,211,000 mothers of large families were receiving these benefits in 1970, but the figure in 1979 was 2,233,000.<sup>10</sup>

A decree has already been adopted by the CPSU Central Committee and USSR Council of Ministers "On Measures To Increase State Aid to Families with Children" in line with the decisions of the 26th CPSU Congress.<sup>11</sup> The assistance of families to rear children is regarded as an important part of the social program for the development of our society. This decree envisages the institution of benefits during the 11th Five-Year Plan in the form of a one-time stipend of 50 rubles for working mothers or mothers studying full-time upon the birth of their first child and 100 rubles upon the birth of their second and third, with no change in the existing rules governing stipends for the birth of the fourth and subsequent children. In 1981 state aid to single mothers is to be increased to 20 rubles a month per child until the child's 16th birthday, or his 18th if he is a student not receiving a grant. Another measure, which will be instituted in stages throughout the nation in 1981, will give working mothers with a total service record of at least 1 year and mothers studying full-time a partially paid leave to take care of infants until their first birthday, in the amount of 50 rubles a month in the Far East, Siberia and the North, and 35 rubles a month in other parts of the country. Mothers will be eligible for an additional leave without pay until their children are 18 months old, and in the future until their second birthday, with no break in their record of continuous service and no loss of seniority on the job.

Working women with two or more children under the age of 12 will be offered a number of benefits: 3 extra days off with pay, priority in the scheduling of annual vacations during the summer or at some other time convenient for them, up to 14 extra days off without pay to care for their children, and other privileges.

It is important to provide newlyweds with better housing and then to gradually improve the housing conditions of the family as it grows. This will require the creation of a maneuverable reserve of available housing in urban and rural locations. This is why the need to offer families with children and newlyweds "more advantages and privileges and assist in the improvement of their housing and living conditions" was stressed at the 26th CPSU Congress.<sup>12</sup>

In 1979 there were 125,400 permanent pre-school establishments in the country; besides this, seasonal pre-school establishments and children's playgrounds are open in the summer.<sup>13</sup> Despite the tremendous scales of the construction of child care establishments in the USSR, the need for them is not being satisfied adequately everywhere. There is a particularly urgent need for kindergartens and nurseries in

the zones of major construction projects. During the 11th and 12th Five-Year Plans, the network of kindergartens and nurseries, extended day care centers and groups, Pioneer camps and other child care establishments will be maximized. Draft plans must envisage the fuller satisfaction of the need for permanent and seasonal pre-school establishments so that the shortage of these in regions with a high level of female employment in social production can be eradicated in the next few years. During the 11th Five-Year Plan the standard expenditures on food in pre-school establishments are to rise by an average of 10-15 percent, and families with an average income of 60 rubles or less a month per family member will not be required to pay tuition for their children in nurseries, kindergartens and boarding schools.<sup>14</sup>

The time has come to dramatically improve family recreational conditions for all family members in medical establishments of the sanatorium type, in vacation centers, in the tourist camps of enterprises and associations, etc. The experience of progressive enterprises which have already opened such establishments testifies that they are highly effective.

A sufficient supply of children's goods, especially food, clothing, furniture, equipment for children's rooms and others, is important in the normal rearing of children and adolescents and in the assistance of families in this work. It was with good reason that the CPSU Central Committee and USSR Council of Ministers passed decrees to improve work in this field.<sup>15</sup> These measures are extremely important now, particularly because the assortment of children's foods is still limited. The supply of special canned goods for children is particularly unsatisfactory. The output of juice and canned fruit and vegetables is not satisfying the needs of children. The output of canned meat and fish for children is also inadequate. There are irregularities in the supply of children's clothing of the necessary assortment, insulated footwear, children's wagons, bicycles for adolescents, furniture, school supplies and sporting goods.

The party and government are constantly striving to improve medical services for mothers, children and adolescents. Each year the network of maternity homes and women's and genetic counseling centers grows. There were 23,829 women's counseling centers and pediatric hospitals and clinics in 1979.<sup>16</sup> The decree of the CPSU Central Committee and USSR Council of Ministers "On Measures for the Further Improvement of Public Health Care" (1977) specified measures for the further improvement of medical services for the entire population, and for children and young adults in particular. An extensive program for the development of the public health system was outlined at the 26th CPSU Congress.

Our concern about the economic problems of the family stems from the increasing interdependence of economic and social factors of social production in the developed socialist society. The life of the family, its financial status and its spiritual and moral state have a tremendous effect on attitudes toward work and school, the enhancement of production skills, creative participation in efficiency planning and invention, etc.

In the socialist society the thorough development of the individual is the objective of education in the home: intellectual, moral, aesthetic and vocational. It is primarily in the home that high moral values are cultivated--collectivism, patriotism, internationalism, respect for elders, honesty and integrity, discipline and



a conscientious attitude toward societal and family obligations, the solicitous treatment of objects as the result of human labor, a love of nature and the desire to protect it. It would be difficult to overestimate the role of the family in the moral and spiritual education of the young. It is in the home that the individual first learns to treat property, public and personal, with care and respect, it is here that the habits and traditions of reasonable demands are formed, and it is here that the foundations of comprehensive and balanced personality development are laid. This is why so much attention is being paid to family welfare, the education of children in the home and the organization of family recreation in outstanding socially organized labor collectives. These factors are also becoming the focus of social planning. The activity of labor collectives is not limited to the completion of production assignments; it also includes social aspects. One of the important ones is the labor collective's interaction with the family, organized with consideration for the fact that the family represents one of the factors making up the basis of the socialist way of life in our society.

The decree of the CPSU Central Committee and USSR Council of Ministers "On the Improvement of Planning and the Augmentation of the Economic Mechanism's Effect on Production Efficiency and the Quality of Work" directs attention, in particular, to the need for the comprehensive resolution of economic and social problems. One of the important ideas set forth in this decree is the proposal that state plans on all levels include sections summarizing the entire group of measures to promote social development. We believe it is important to give more attention to family needs and their satisfaction in the social sections of all types of plans in line with the decisions of the 26th CPSU Congress, and this should be done with consideration for the regional peculiarities of families, their number and structure. Above all, we must remember that the state of the family has a tremendous effect on the degree to which women become involved in social production. The peculiarities of women's labor play an important role here. With a view to these, women with children should be offered more opportunities for part-time work. The decree of the CPSU Central Committee and USSR Council of Ministers "On Measures To Increase State Aid to Families with Children" proposes that the union republic councils of ministers and union ministries and departments plan and implement measures for the widespread placement of women in jobs with a part-time workday or week, jobs with a flexible schedule and jobs that can be performed in the home.

The requirements of normal family living call for guaranteed equal employment opportunities for men and women in every region. Although this requirement is a common element of planning theory, in practice it is still violated quite often, and this produces undesirable results. When general plans are drawn up for the distribution of productive forces, the development of transportation and population settlement patterns and when the plans and designs are compiled for regional layouts, the developmental prospects of new cities and so forth, population figures must be estimated. It is significant that a number of planning experts have proposed that the family structure be taken fully into account in this process. For example, D. Khodzhayev writes that, in the initial stages of the construction of new cities, the principal basic data for the calculation of the estimated population should consist of indicators of the number of personnel at enterprises being built in the city, the estimated coefficient of family size in the region, the percentage of second family members in the total labor force, data on the personnel of construction and installation organizations during the "peak" (in terms of construction

and installation volumes) year of construction and during the year when the projects will be completed and, finally, data on builders who will then transfer to jobs at enterprises in the city.<sup>17</sup>

The coefficient of family size is calculated and periodically adjusted by the USSR Central Statistical Administration with the aid of a cross-section of the urban and rural population of all union republics. At the beginning of 1981, for example, the average family in the nation consisted of 3.27 members, with the urban family having 3.12 members and the rural family having 3.58. Urban family size ranges from 2.6 members in the Estonian SSR to 4.49 in the Armenian SSR. To determine the percentage of second family members in the total number of enterprise workers and employees, tables of the proper coefficients for branches of the national economy and industry have been compiled. The average indicator for the nation is 34-35 percent.

Unfortunately, these factors are not always taken into account when plans are drawn up, and even less often when they are being carried out. This gives rise to disparities which ultimately lead to sizeable losses in the national economy and inhibit the formation and development of the family.

The family must also be considered when comprehensive urban development projects are being planned, at which time the public demand for cultural, consumer and municipal services must be taken fully into account. This presupposes a knowledge of the structure and number of families. In particular, the current tendency toward the fragmentation of large families and toward separate living quarters for the older and younger generations is not being given adequate consideration.

In agriculture, the successful development of the subsidiary farming activity of kolkhoz members and sovkhoz workers depends largely on the efficient division of labor within the family and on help from the public farming sector. The efficient planning of rural residential buildings and farmsteads for one or two families with adjacent gardens and plots is one of the main prerequisites for the successful development of the private farming sector, the encouragement of young people to cultivate a love for agricultural labor and the resolution of a number of other social problems.

We should support V. Mayer's proposal that one of the improvements in the plans for social development and the elevation of the public standard of living should be a larger group of state plan indicators of public well-being and that these indicators should be more specific. In particular, a number of these indicators should focus on the family. To a certain degree, this has been reflected in the new Standard Methods of Compiling the Technical, Industrial and Financial Plan of the Production Association (Combine) or Enterprise, with a special section entitled "Compiling the Plan for the Social Development of the Collective." The plan for social development is entered on the following forms: "Changes in the Sociodemographic Structure of the Production Collective" (49-TP); "Measures To Improve Labor Conditions and Safety and Preserve the Health of Workers" (50-TP); "The Improvement of Social, Cultural, Housing and Consumer Conditions for Workers and Members of Their Families" (51-TP); "The Communist Indoctrination of the Laboring Public and the Better Management of the Collective" (52-TP, 53-TP).<sup>18</sup>

The structure of the family is quite important in the successful territorial planning of the standard of living. Of course, the principal territorial features of public living conditions are regional production and economic differences, but the standard of living is also affected considerably by family size, which depends on living conditions, national traditions and the structure of life. It is also significant that the high rate of personnel turnover in newly developed regions with a labor shortage is largely due to family inconveniences. In other words, the higher wages in these regions attract new settlers, but the length of their stay will depend mainly on living conditions and the social infrastructure for family life. Even within the Ukrainian SSR, which was settled long ago and has a developed social and consumer infrastructure, more than 28 percent of all migrants, according to estimates, change their place of employment and residence because of unsatisfactory housing and sociocultural conditions.<sup>19</sup> As for newly settled areas, if labor resources are to be encouraged to settle here permanently, it will be of primary importance to establish all of the necessary conditions for the satisfaction of material and sociocultural needs for comfortable housing, stores, cafeterias, consumer service enterprises, child care establishments, schools, libraries, clubs and movie theaters.

Therefore, an analysis of the family's household management functions cogently testifies that it is now extremely important to coordinate, during all stages of the development of productive forces, the levels of production branches and the social infrastructure and to strike the optimal balance, not only in terms of resources but also in terms of volume indicators of their activity, which have a direct effect on the satisfaction of public needs.

#### FOOTNOTES

1. K. Marx and F. Engels, "Works," 2d ed, vol 27, p 402.
2. See, for example, A. G. Kharchev, "Brak i sem'ya v SSSR" [Marriage and the Family in the USSR], Moscow, 1979, and others.
3. "Materialy XXVI s'yezda KPSS" [Materials of the 26th CPSU Congress], Moscow, 1981, p 54.
4. "Narodnoye khozyaystvo SSSR v 1979 g." [The National Economy of the USSR in 1979], Moscow, 1980, p 35.
5. M. Gorshkov, "The Development of Consumer Goods Production--the Most Important Condition for the Enhancement of Public Well-Being," PLANOVoye KHOZYAYSTVO, 1981, No 5, p 35.
6. A. Lobko, "Problems in the Satisfaction of Demand for Cultural and Consumer Goods and Housewares," PLANOVoye KHOZYAYSTVO, 1981, No 5, p 93.
7. V. Mayer, "Plans for the Enhancement of Public Well-Being," PLANOVoye KHOZYAYSTVO, 1979, No 5, p 104.
8. "Narodnoye khozyaystvo SSSR v 1979 g.," pp 410, 411.

9. "SSSR v tsifrakh v 1980 godu" [Statistical Record of the USSR in 1980], Moscow, 1981, p 20.
10. "Narodnoye khozyaystvo SSSR v 1979 g.," p 439.
11. PRAVDA, 31 March 1981, p 1; 6 September 1981, p 1.
12. "Materialy XXVI s"yezda KPSS," p 178.
13. "Narodnoye khozyaystvo SSSR v 1979 g.," p 437.
14. "On Measures To Increase State Aid to Families with Children," PRAVDA, 31 March 1981.
15. "On Measures for the Further Development of Trade," PRAVDA, 9 July 1977; "On Measures To Increase the Output of Goods for Children, Improve Their Quality and Improve the Trade in These Goods," PRAVDA, 14 November 1978; "On Measures for the Further Improvement of Public Health Care," PRAVDA, 15 October 1977.
16. "Narodnoye khozyaystvo SSSR v 1979 g.," p 532.
17. D. Khodzhayev, "Some Problems in the Development of New Cities," PLANOVoye KHOZYAYSTVO, 1979, No 2, p 72. The author proposes that the number of inhabitants connected with jobs at a new industrial enterprise be calculated according to the following formula:

$$H = \frac{P(100-y)}{100} K_c$$

where H signifies the number of inhabitants connected with jobs at the new enterprise; P signifies the total number of workers at the enterprise when the first section is completed; y signifies the percentage of second family members in the total number of enterprise workers and employees;  $K_c$  signifies the general coefficient of family size for the given region (the size of the average family, including persons living alone).

18. PLANOVoye KHOZYAYSTVO, 1979, No 4, p 117.
19. A. Kocherga, "Problems in the Territorial Planning of Public Well-Being," PLANOVoye KHOZYAYSTVO, 1979, No 2, p 96.

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